

HORIZONS

W-AHEAD Global Impact Quarterly

Empowering Education. Driving Development.



World Youth Skills Day- 2026 | SPECIAL ISSUE | JULY, 2026



R. A. Mashelkar, FRS

Formerly:

- Director General, Council of Scientific & Industrial Research
- Secretary, Department of Scientific & Industrial Research, Govt. of India
- President, Indian National Science Academy
- Chairman, National Innovation Foundation
- President, Global Research Alliance
- Member, Science Advisory Council to Prime Minister
- National Research Professor

Message for World Youth Skills Day 2026

I am delighted to learn that the World Academy of Higher Education and Development (W-AHEAD) is commemorating **World Youth Skills Day 2026** through a National Seminar on “**Unlocking the Potential of Young India in the Age of AI for Viksit Bharat@2047.**”

As India marches towards the vision of a Viksit Bharat by 2047, our greatest strength lies in the aspirations, creativity, and capabilities of our young people. Artificial Intelligence is transforming every sector of society and the economy at an unprecedented pace. While AI offers immense opportunities, it also places a premium on continuous learning, adaptability, innovation, and ethical leadership.

The challenge before us is not merely to prepare our youth for the jobs of tomorrow, but to empower them to become creators of new knowledge, new technologies, new enterprises, and new solutions for humanity. This requires a future-ready skilling ecosystem that combines technological competence with human values, creativity, critical thinking, entrepreneurship, and a spirit of service.

India has the unique opportunity to lead the world by leveraging its demographic dividend, digital capabilities, and innovation potential. Our educational institutions, industry leaders, policymakers, and civil society must work together to ensure that every young Indian has access to quality education, relevant skills, and opportunities for lifelong learning.

I congratulate W-AHEAD for organizing this timely and important initiative and for fostering meaningful dialogue among students, educators, industry leaders, and policymakers. I am confident that the deliberations of this seminar will generate valuable insights and actionable pathways for unlocking the full potential of Young India in the age of AI.

I extend my best wishes for the success of the event and for the continued efforts of W-AHEAD in advancing excellence in higher education, research, innovation, and nation building.

Raghunath Mashelkar

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INDIAN INSTITUTE
OF ECOLOGY AND
ENVIRONMENT

WORLD ACADEMY OF HIGHER EDUCATION AND DEVELOPMENT (W-AHEAD)

Jointly with

INDIAN INSTITUTE OF ECOLOGY AND
ENVIRONMENT, IIEE

Celebrates

World Youth Skills Day – 2026

&

Seminar on

**“Unlocking the Potential of Young India
in the age of AI for Viksit Bharat@2047”**



Wednesday, 15th July 2026

📍 Multipurpose Hall, India International Centre, New Delhi

About the Academy (W-AHEAD)

The World Academy of Higher Education and Development, World-AHEAD, is a global body of professionals from the world of learning and the world of industries and corporate, deeply devoted to serve as a catalyst for excellence in higher education and development-promoting equity, inclusivity, and sustainability. Through cutting-edge research, innovative teaching methodologies, Skilling for Youth and impactful outreach initiatives, World-AHEAD seeks to empower individuals, institutions, and communities to thrive in an increasingly complex and interconnected world. Grounded in the principles of integrity, diversity, and collaboration,

W-AHEAD is committed to fostering a culture of lifelong learning, nurturing agile skill sets, critical inquiry, social responsibility, good governance and commitment to environmental sustainability.

The Academy is headed by Prof PB Sharma as its President and has on board eminent scientists, technologists, academics, corporate leaders, innovators and professionals as its Fellows of Eminence. These include among others Dr VK Saraswat, Former Member Niti Aayog and former Director General of DRDO, Professor Prem Vrat, Founder Director IIT Roorkee and Chairman BoG, IIT Dhanbad, Er Pradeep Chaturvedi, Vice

President, Indian Academy of Engineering, Dr Syed E Husnain, National Science Chair and Former Vice Chancellor University of Hyderabad, Dr Mahesh Verma, Vice Chancellor of GGSIPU, Dr V Suresh, Former CMD, HUDCO, Er VK Yadav, Former Chairman, Railway Board, Dr Krishen Kumar, Chief Technologist, JFC,

NASA, Dr Tendai Padenga, Chancellor Afrisol University Zimbabwe, Dr Raj K Tiwari, New York Medical College, USA, Dr. PR Trivedi, Executive Chairman, W- AHEAD and Founder IIEE, New Delhi, Dr Pankaj Mittal, Secretary General AIU and Prof HRP Yadav, Former Secretary & Director General, IE(I) and Secretary General W- AHEAD.

About World Youth Skills Day-2026

World Youth Skills Day was established by the United Nations to recognize the significance of equipping young people with skills for employment, entrepreneurship, and personal development. Celebrating World Youth Skills Day 2026 is not just an annual event, but a call to action, urging us to invest in our youth, ensure access to quality education, and provide them with opportunities to develop their full potential.

The World Academy of Higher Education and Development (W-AHEAD) have the pleasure in announcing the celebration of the United Nation's "World Youth Skills Day - 2026" on July 15, 2026, at India International Centre (IIC), New Delhi. The theme for WYSD 2026 this year focuses on "Unlocking the Potential of Youth in the age of AI". To achieve this goal we need to unlock the potential of higher technical education, research and innovation to foster a culture of future ready knowledge and technology intensive skills to accelerate both the job creation as well as to make the existing and future workforce empowered with the AI and digital skills of the new age.

As the world becomes increasingly interconnected and digitalized, the acquisition of AI and digital skills is no longer a matter of choice but a necessity for young people to navigate the complexities of the modern world,

secure meaningful employment, and contribute to social progress. This summit delves into the multifaceted dimensions of youth empowerment through AI and digital skills, highlighting the potential benefits, addressing the challenges, and outlining strategies for fostering a future-ready generation empowered by AI and Digital Skills.

As such, the AI empowerment has now become an absolute must for the youth of the new age as well as for reskilling the exiting workforce to maintain its agility and productive utilization. However, while the opportunities are immense, so are the challenges presented by the ever-increasing rapid expansion of the AI horizons. Here lies the great opportunity to unlock the potential of higher technical education for empowering the youth with skills of the new age as also to equip with the character skills of self-discipline, personal and professional ethics and morality and compassion and care for the society and the planet Mother Earth.

The celebration of the World Youth Skills Day 2026 will bring together the inspired minds of young students, educators, industry leaders and policymakers to deliberate on building a robust, future-ready skilling ecosystem for young India in alignment with the vision of a Viksit Bharat@2047.

Celebrating Eminence

On this occasion, the World Academy W-AHEAD shall also confer the honour of Fellowship of Eminence of W-AHEAD upon a few selected individuals who have made outstanding contributions to nation building through higher education, research, Innovations and industrial advancement and made global humanity proud of their professional eminence. The event shall

include the celebration of eminence of Professor E Balagurusamy, Former Member UPSC, Former Vice Chancellor of Anna University and an icon of Academic Excellence, Honesty and Integrity in public life. A book inspiring the youth on "Mantras for Success & Happiness: from Mind to Manifestation" by Dr E Balagurusamy will also be launched at the event.

Inaugural Session



Chief Guest

Dr. Raj Bhushan Choudhary

Hon'ble Minister of State
Ministry of Jalshakti, Gol

Distinguished Guests of Honour



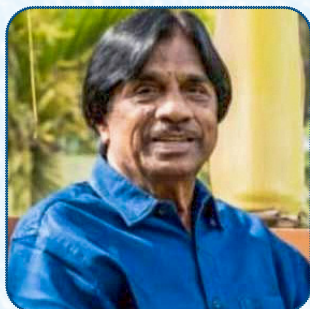
Dr VK Saraswat

Former Member NITI Aayog
and Former DG DRDO



Prof (Dr) TG Sitharam

Former Chairman AICTE &
Chairman BoG, NFSTS, Coimbatore



Prof. E. Balagurusamy

Former Vice-Chancellor, Anna University



Ambassador

Shri Akhilesh Mishra



Prof. Kamal Kishore Pant

Director, IIT Roorkee



Raj K Soin

Chairman, Soin International, Ohio, USA

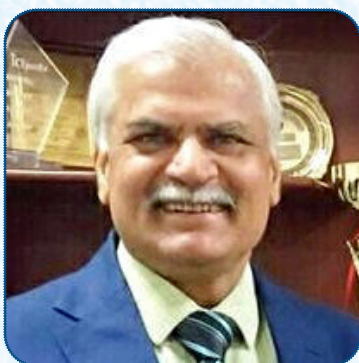
Valedictory Session



Chief Guest

Prof (Dr) Murli Manohar Joshi

Hon'ble Former Minister of HRD



Distinguished Guest of Honour

Prof RK Khandal

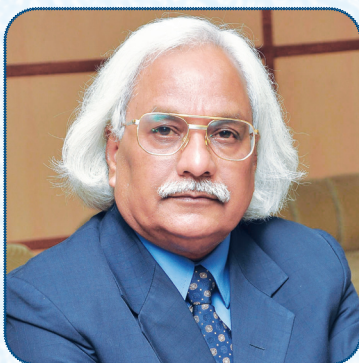
Former Vice Chancellor UPTU
& President R&D, Glycol



Distinguished Guest of Honour

Er Pradeep Chaturvedi

Vice President, Indian National Academy of
Engineering, INAE



Organizing Chairman

Prof PB Sharma

President, W-AHEAD
Vice Chancellor AUH



Organizing Co-Chairman

Dr PR Trivedi

Founder IIEE
Executive Chairman W-AHEAD

Welcome Address by -

Prof. (Dr.) P.B. Sharma, Founder President, W-AHEAD

“ Skills for a Shared Future: Empowering Youth for a Sustainable and AI-Driven Tomorrow ”



15th July 2026



India International Centre (IIC), New Delhi



Distinguished Chief Guest at today's Inaugural session, Esteemed Guests of Honour, eminent members of the International Advisory Council of W-AHEAD, Eminent Fellows of the Academy, visionary educators, industry leaders, policymakers, and above all, my dear young friends, the future architects of our global civilization.

A very warm and cordial morning to each one of you.

On behalf of the World Academy of Higher Education and Development (W-AHEAD), it gives me profound joy and an immense sense of pride to welcome you all to the historic India International Centre for the Inaugural Session of World Youth Skills Day 2026. Your presence here today signifies a shared commitment to the most valuable asset of our global society: our youth.

The Academy is deeply indebted to our Chief Patron, Distinguished Technologist Dr VK Saraswat, Padma Bhushan Awardee, Former Member of NITI Ayog and Director General of DRDO for sparing his highly valuable time to be with us on this momentous occasion of celebration of the World Youth Skills Day-2026. We are truly honored to have on the dais India's leading light in computer education, a person of great integrity and eminence Prof E Balagurusamy, Former Member UPSC and former Vice Chancellor of Anna University. We are equally delighted to have on the dais our distinguished Guests of Honour Dr NS Kalsi, IAS(Retd) former Chairman of NCVET, Ministry of Skill Development, GoI, Dr TG Sitharam, Former Chairman of AICTE, Prof KK Pant, Director IIT Roorkee, Er Pradeep Chaturvedi, Sr Vice President of Indian National Academy of Engineering, INAE, Shri Sajal Gupta, President

Monnet International Ltd and Chair Railway Committee of PHDCCI New Delhi, my colleagues Prof PR Trivedi, Executive Chairman of W-AHEAD and Founder of Indian Institute of Ecology and Environment, New Delhi and Dr HRP Yadav, the Organizing Secretary of W-AHEAD.

We are also immensely delighted to have in the audience our Fellows of Eminence of W-AHEAD Er VK Yadav, Former Chairman Railway Board, Dr Mahesh Verma, Hon'ble Vice Chancellor GGSIPU, Dr Prateek Sharma, Hon'ble Vice Chancellor of DTU, Prof Perna Gaur, Director of NSUT West Campus, Prof AQ Ansari, JMI, Prof MN Hoda, Director BVBIT New Delhi, young innovators from IIT Roorkee, DTU, Acropolis Indore, KIIT Gurugram, Dr Jayant Ratti, globally renowned Innovator and Founder CEO of Nayan Technologies, Shri Vivek Dhawan, Founder and CEO of Smriti Netcom, Shri Arjun Dhawan, Founder of Genovalve Australia, Shri Aurbind Sharma, Founder and CEO of Ted Consulting and Shri Amit Pandey, Co-Founder and CTO of Jellyfish Technologies Noida and young innovative minds of students from schools, colleges and universities in NCR of Delhi accompanied by their illustrious Principals and teachers. Once again, a warm welcome to all of you. We in W-AHEAD are truly delighted to have your most inspiring presence at today's celebration.

ESTABLISHMENT OF W-AHEAD & THE GLOBAL LANDSCAPE

When we conceptualized W-AHEAD, our core vision was absolutely clear: higher education cannot exist in an ivory tower. It must act as a powerful catalyst for inclusive development, real-world innovation, and sustainable progression. Today, as we stand deep in the era of the Fifth Industrial Revolution, we find ourselves at a critical crossroad.

The world of work is undergoing a dramatic paradigm shift. Rapid advancements in Artificial Intelligence, machine learning, and automation are reshaping job markets overnight. At the same time, severe climate challenges demand a swift transition toward green economies and sustainable practices.

In this fast-evolving ecosystem, our traditional educational models are being put to the ultimate test. It is no longer enough for our youth to possess static degrees. They need dynamic, future-ready, and highly adaptable skill sets besides being innovative and creative thinkers and persons of conscience and heart for people and the vast biodiversity that is around. They are to be outstanding citizens of the global world and need to maintain highest levels of ethical and moral integrity in their personal as well as work life.

The W-AHEAD was established to catalyze creating such an ecosystem of higher education and development.

The Core Message: "Silicon with a Soul" and Future-Ready Skills

As I frequently emphasize, as we build advanced technology, we must ensure that technology is not perceived as def and dumb and open to misuse by anyone. Technologies of tomorrow are to be technologies with a conscience, like 'Silicon with a Soul'—ensuring that the AI on the Chip is built with a conscience and a humane heart. Further, technology must serve humanity, not replace our human essence nor should lead us to disaster and devastation that otherwise could be possible due to madness of man and mindless use of scientific advancement and technology innovations.

Therefore, our approach to skilling the youth must be multi-dimensional and targeted to:

Technological & AI Literacy: Our youth must be engaged to incubate the technologies of conscience and master the tools of tomorrow, leveraging digital intelligence and AI to drive next-generation problem-solving in a manner that the cause of speed and precision is served along with sustainability and circularity.

Green Skills for Sustainability: We must impart productivity methods that focus on doing better with less, fostering an eco-conscious mindset to protect our fragile planet.

The Unreplaceable Human Edge: While AI can automate tasks, it cannot replicate emotional intelligence, cross-cultural empathy, ethical leadership, and absolute resilience. These are the foundational human skills that will define a shared, prosperous future.

OUR SHARED RESPONSIBILITY

Skilling the youth is not a localized objective; it is a global, collective responsibility. It requires a seamless, vibrant synergy between academic institutions, corporate powerhouses, and forward-thinking policymakers.

W-AHEAD is deeply dedicated to bridging the gaps between education, employment, and sustainable development.

On this momentous occasion of the celebration of UN World Youth Skills Day-2026 today, I have a message to our young participants in the audience: look at this era, not with anxiety about technological disruption, but as an open canvas of unprecedented opportunity. Cultivate a mindset of lifelong learning and future ready technology and life skills. Be curious, stay agile, but not forget to ground your skills in ethics and social responsibility and conduct yourself as a responsible global citizen committed to integrity, excellence and sustainability.

I wish to accord our deep admiration to the innovative minds who are receiving Global Innovation Awards-2026 from W-AHEAD. Let you continue to shine like the brightest stars glowing your innovative eminence, be the change makers and make global humanity and W-AHEAD proud of your accomplishments.

I am confident that the deliberations, panel discussions, and insights that will be shared by our esteemed speakers today will chart a definitive roadmap for youth empowerment, turning demographic challenges into immense economic and social dividends. Let our commitment to One World One Family, Common Future be strengthened by our collective resolve for nurturing future ready skills in our youth for a Shared Future.

Once again, I extend a hearty welcome to our guests and participants and thank you for your most gracious presence.

Jai Hind.

The Academy also considers it a matter of great honour to confer the honour of Fellows of Eminence upon the following:

Citation



World Academy of Higher Education and Development (W-AHEAD)

with full honour confers upon



Prof. E. BALAGURUSAMY

Fellow of Eminence of W-AHEAD & Lifetime Achievement Award

for

"His most distinguished service to the nation with dignity and integrity, eminence in academic accomplishments, leadership excellence and monumental contribution to democratizing computer literacy, touching the lives of millions and for contributing significantly to India's impressive march towards becoming a knowledge based, digitally empowered society."

Prof. E. Balagurusamy is one of India's most respected educationists, technocrats, authors and public intellectuals. Widely acclaimed as the "Father of Computer Education in India," he has played a transformative role in democratizing computer literacy and technology education across the country. Through his pioneering work in education, public administration, technology, and institution building, he has touched the lives of millions and contributed significantly to India's journey towards becoming a knowledge-based society.

For several decades, Prof. Balagurusamy has been a trusted guide to students and educators through his authorship of more than fifty books on computer science, programming, information technology, soft skills and professional development. His textbooks, known for their clarity, simplicity and practical approach, have become standard references in schools, colleges, universities and professional institutions. Millions of students have learned the fundamentals of computing through his writings, earning him the affectionate title of the "Father of Computer Education in India." His books have not merely taught programming languages; they have inspired generations to embrace technology as a tool for innovation and progress.

A visionary long before the digital era became mainstream, Prof. Balagurusamy served as IT Advisor to the Government of Andhra Pradesh in the 1980s. At a time when the use of computers in governance was still in its infancy, he championed the application of information technology in public administration. His pioneering initiatives helped lay the foundation for the e-Governance movement that later transformed government services across India.

As Vice-Chancellor of Anna University, Prof. Balagurusamy demonstrated exceptional academic leadership. He strengthened educational standards, encouraged research and innovation, promoted industry-academia collaboration, and emphasized transparency and accountability in university administration. His tenure is remembered for his commitment to excellence, honesty, integrity and student-centric reforms.

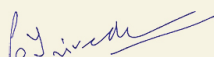
His dedication to fairness and public service found expression in his role as a Member of the Union Public Service Commission. In this prestigious constitutional position, he upheld the highest standards of merit, integrity, and transparency in the recruitment of civil servants, thereby contributing to the strengthening of public institutions and good governance.

As Chairman of the Consortium for Educational Communication, he promoted the innovative use of educational media and digital technologies to widen access to quality higher education. His efforts helped advance technology-enabled learning and expand educational opportunities for students across the nation.

Prof. Balagurusamy's distinguished contributions have been recognized through numerous national and international awards, honours, and professional accolades. These recognitions reflect not only his scholarly achievements but also his extraordinary service to education, technology, public administration, and nation-building. Yet, despite his many accomplishments, he remains admired for his humility, accessibility, and unwavering commitment to students and young professionals.

The life and work of Prof. E. Balagurusamy stand as a testament to the transformative power of education, vision, and leadership. As an educator, author, institution builder, technology pioneer, public servant, and mentor, he has left an indelible mark on India. His legacy will continue to inspire future generations and remain a guiding light for all those committed to the pursuit of knowledge, excellence, and national development.

In recognition of the outstanding contributions Prof. E. Balagurusamy for living a life with dignity and honesty, serving with integrity and contributing to nurturing academic and leadership excellence and his Outstanding contributions to Computer Education and Research, The World Academy of Higher Education and Development with great privilege confers upon Prof. E. Balagurusamy, the honour of **Fellow of Eminence of the Academy, W-AHEAD and Celebrates his eminence by Conferring upon him the "Lifetime Achievement Award"**.


Dr. P. R. Trivedi
Executive Chairman


15th July, 2026


Prof. P. B. Sharma
President

Citation



World Academy of Higher Education and Development (W-AHEAD)

with full honour confers upon



RAJ K SOIN

Chairman, Soin International, Ohio, USA

Fellow of Eminence of W-AHEAD

for

"His most distinguished service to Global Humanity with dignity and integrity, eminence in tech innovations, leadership excellence and monumental contribution to the wellbeing of people, touching the lives of millions and for contributing significantly to Philanthropy in Education and Healthcare."

The General Council and the international academic community of the World Academy of Higher Education and Development (W-AHEAD) assemble today with profound esteem to confer its highest honour, the **Fellowship of Eminence**, upon **Mr. Raj K. Soin** — a towering global entrepreneur, an iconic leader of technology and enterprise, and a deeply compassionate philanthropist whose life journey perfectly exemplifies the philosophy of integration of professional excellence with a profound social conscience.

Grounded in the finest traditions of rigorous technical education, Mr. Raj Soin graduated in Mechanical Engineering from the prestigious **Delhi College of Engineering (DCE)**, an institution that laid the bedrock for his brilliant analytical mind and indomitable spirit of enterprise. Journeying from his roots to the global stage, he demonstrated that engineering acumen, when anchored in innovative spirit and team excellence, can unleash the infinite power of innovation to transform modern industries. As the visionary founder of Modern Technologies Corporation (MTC) and the architect of Soin International, he built a formidable global conglomerate that stands today as a world-class beacon of high-tech innovation, strategic enterprise, and industrial integrity.

While his professional achievements span across continents, Mr. Soin has never forgotten the sanctuary of learning that nurtured his initial dreams. In an extraordinary manifestation of gratitude and a historic gesture of alumni giving, he reached back across the seas to transform his alma mater. His magnificent philanthropic contribution to DCE has culminated in the creation of the iconic **Raj Soin Hall** — a state-of-the-art, climate-responsive, multi-use architectural marvel. Through this monumental gift, he has permanently redefined the infrastructure landscape of his alma mater, leaving a timeless legacy for generations of future engineers.

Beyond the boundaries of his homeland, Mr. Soin's transformative benevolence continues to reshape the global arenas of higher education and healthcare. His historic support led to the naming of the **Raj Soin College of Business at Wright State University**, and also **Raj Soin Hall at Bradley University**, a vibrant cradle of ethical corporate leadership, while his profound belief that advanced technology must always be coupled with human compassion is beautifully manifested in the **Indu & Raj Soin Medical Center** in Ohio, USA, and the **Pediatric Emergency & Trauma Center** in Dayton, Ohio, USA.

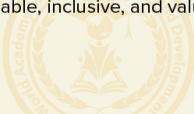
He served on the boards of his alma mater, Bradley University and at Wright State University in Dayton, Ohio along with the Kettering Medical Center Network. His hard work and dedication both professionally and philanthropically led to numerous honours and awards, these include Ernst & Young's 1999 Master Entrepreneur, Ellis Island Medal of Honor Award, 2003, Honorary Doctor of Humane Letters Degree, Wright State University 2005 and Doctor of Humane Letters degree from Bradley University 2010.

Raj stands as a stellar epitome of a global citizen who builds bridges between nations, ensuring that the fruits of global commerce are directed toward inclusive growth, institutional excellence, and the empowerment of human potential.

For his monumental contributions to technological enterprise and global business governance; for his magnificent, enduring devotion and philanthropic service; for his visionary impact on higher education and community healthcare worldwide; and for living a life that serves as an inspiring masterclass in humanitarian responsibility, the World Academy of Higher Education and Development is profoundly privileged to admit Mr Raj K Soin to the rank of **Fellow of Eminence**.

Conferred on this day, with the collective admiration of eminent educators, scientists, and corporate leaders, who look to his legacy as a guiding light for building a sustainable, inclusive, and value-driven world.

Dr. P. R. Trivedi
Executive Chairman



15th July, 2026

Prof. P. B. Sharma
President

Citation



World Academy of Higher Education and Development (W-AHEAD)

with full honour confers upon



Ambassador Shri AKHILESH MISHRA
Fellow of Eminence of W-AHEAD

for

“His most distinguished career as an Ambassador of the Indian Republic, a Champion of Geo-Strategic Affairs, his immense wisdom of the heritage and philosophy of the Orient and for his advancement of Indian Culture and Spirituality”.

Ambassador Akhilesh Mishra belongs to the Indian Foreign Service and has over three decades of rich experience in the entire gamut of Indian diplomacy, covering political, security and geo-strategic affairs; economic & commercial, investment & technology issues; education, research & innovation; cultural & soft power engagements; Indian Diaspora and India's development partnership with other countries. Before joining the Embassy in Dublin in October 2021, Ambassador Mishra was deployed in the Ministry of External Affairs as Officer on Special Duty (Political) and Head of Development Partnership Administration, dealing with dialogue on international development issues.

A champion of Indian Philosophy and Cultural Heritage, Ambassador Mishra was Director General of the Indian Council for Cultural Relations (ICCR), New Delhi and has held several missions that include Ambassador of India to Maldives (2016-19) and Consul General of India in Toronto, Canada (2013-16); Joint Secretary/Head of Division in the Ministry of External Affairs dealing with India's relations with Nepal and Bhutan (2011-13) and Joint Secretary in charge of Multilateral Economic Relations Division (2010-11). Ambassador Mishra has also been the Deputy Chief of Mission in Kabul, Afghanistan (2008-10); Deputy High Commissioner Dar-es-Salaam, Tanzania (2005-08); Deputy Consul General in San Francisco, USA (2001-05); Deputy Secretary dealing with Bangladesh in the Ministry of External Affairs, New Delhi (1999-2001).

A Gold Medalist Engineering graduate from the prestigious Indian Institute of Technology and Masters from the Banaras Hindu University (BHU) again with a Gold Medal, Ambassador Mishra belongs to Varanasi, one of the holiest, most ancient historical and cultural, living cities of India. Besides international affairs, Ambassador Mishra has keen interest in Indian culture, especially Sanskrit Vedic & classical literature, science & spirituality, yoga and meditation.

In recognition of the outstanding contributions of Ambassador Mishra in the fields of Geo-Strategic Affairs, Vedic Heritage and Philosophy of the Orient and for his advancement of Indian Culture and Spirituality, The World Academy of Higher Education and Development with great privilege confers upon Ambassador Akhilesh Mishra, the honour of **Fellow of Eminence of the Academy, W-AHEAD.**



Dr. P. R. Trivedi
Executive Chairman



15th July, 2026



Prof. P. B. Sharma
President

Citation



World Academy of Higher Education and Development (W-AHEAD)

with full honour confers upon



Prof. KAMAL KISHORE PANT
Fellow of Eminence of W-AHEAD

for

“His most distinguished service to the nation with dignity and integrity, eminence in academic accomplishments, leadership excellence; in honor of a transformative leader and scientist whose dedication to green innovation lights the path toward a

Professor Kamal Kishore Pant, as the Director of the Indian Institute of Technology Roorkee, has demonstrated exceptional institutional leadership. He fosters an academic environment where rigorous research seamlessly converges with societal impact, championing interdisciplinary solutions to pressing global challenges and mentoring the next generation of technocrats.

As a pioneer in green chemical engineering, Professor Pant has dedicated his career to transformative research in heterogeneous catalysis, reaction kinetics, and sustainable energy. His groundbreaking work, ranging from biomass conversion and waste-to-wealth strategies, such as the recycling of electronic waste and plastics, to CO₂ utilization for green energy, exemplifies his deep commitment to sustainability engineering. His extensive body of work, comprising hundreds of high-impact publications and patents, stands as a testament to his ability to translate molecular engineering into scalable, tangible solutions for a circular economy.

Prof. Pant is an iconic academic leader and a preeminent researcher whose work is defining the future of sustainable chemical engineering. In recognition of his towering contributions, Professor Pant has been honored with numerous prestigious accolades, including the **National Award for Technology Development** from the Ministry of Science and Technology, Government of India, the **Dr. A.V. Rama Rao Foundation Best Researcher Award** from the Indian Institute of Chemical Engineers, and the **Distinguished Researcher Award** from IIT Delhi. He is also an elected Fellow of the **Indian National Academy of Engineering (INAE)**, the **National Academy of Sciences, India (NASI)**, and the **Royal Society of Chemistry (FRSC)**, acknowledging his global standing as a leader in scientific innovation.

Throughout his illustrious career, Prof Pant has remained a passionate mentor, bridging the gap between innovative laboratory discovery and institutional transformation. By integrating advanced sustainable engineering practices with a vision for national self-reliance, he has inspired generations to pursue science that serves humanity with intellectual depth and profound moral rectitude.

In recognition of his distinguished research, his visionary leadership in higher education and his lifelong dedication to engineering excellence, the Governing Council of the **World Academy of Higher Education and Development** proudly confers the **Fellowship of Eminence** upon **Professor Kamal Kishore Pant**, on this day.

Dr. P. R. Trivedi
Executive Chairman



15th July, 2026

Prof. P. B. Sharma
President

Citation



World Academy of Higher Education and Development (W-AHEAD)

with full honour confers upon



Prof. MANELL E. ZAKHARIA
Fellow of Eminence of W-AHEAD

for

"His most distinguished contributions to underwater acoustics, global acoustic research and for his exceptional leadership in advancing international scientific cooperation and higher education. A global ambassador of acoustical excellence whose lifelong contributions continue to enrich science, technology, education, and humanity."

Prof. Manell E. Zakharia is internationally acclaimed for his outstanding contributions to Underwater Acoustics, Sonar Systems, Signal Processing, Ocean Engineering, and Global Acoustic Research, and for his exceptional leadership in advancing international scientific cooperation and higher education.

With a distinguished academic and research career spanning more than four decades, Prof. Zakharia has served as Professor at the French Naval Academy, International Technical Expert in Blue Economy, Founder and Director of pioneering acoustics laboratories, and President of the European Acoustics Association, representing over 8,000 acousticians across Europe. His visionary leadership has significantly strengthened global collaboration in acoustics, marine technology, and scientific innovation.

A globally respected scholar, he has supervised numerous doctoral and master's researchers, led 66 major research projects, coordinated international programs, participated in groundbreaking scientific cruises, and contributed to the design and validation of advanced sonar technologies that have transformed underwater sensing, navigation, imaging, and ocean exploration.

His remarkable achievements include more than 450 scientific publications and reports, leadership roles in prestigious international scientific organizations, and recognition as Fellow or Honorary Fellow of several leading acoustical societies worldwide, including the Acoustical Society of India, Acoustical Society of America, Institute of Acoustics (UK), and IEEE professional communities.

Prof. Zakharia has played a pivotal role in promoting excellence in research, education, innovation, and international partnership across Europe, Asia, and beyond. His contributions have not only advanced scientific knowledge but have also inspired generations of researchers, engineers, educators, and global thought leaders.

In recognition of his extraordinary contributions to acoustical science, underwater acoustics, sonar engineering, higher education, international research collaboration, and global scientific leadership, the World Academy of Higher Education and Development (W-AHEAD) proudly confers upon Prof. Manell E. Zakharia the prestigious honour of Fellow of Eminence of the Academy.

In recognition of the outstanding contributions Prof. Manell E. Zakharia for his extraordinary contributions to acoustical science, underwater acoustics, sonar engineering, higher education, international research collaboration, and global scientific leadership, the World Academy of Higher Education and Development with great privilege confers upon Prof. Manell E. Zakharia, the honour of **Fellow of Eminence of the Academy, W-AHEAD**.

Dr. P. R. Trivedi
Executive Chairman



15th July, 2026

Prof. P. B. Sharma
President

Citation



World Academy of Higher Education and Development (W-AHEAD)

with full honour confers upon



Dr. MAHAVIR SINGH

Fellow of Eminence of W-AHEAD

for

“His most distinguished contributions to pioneering scientific research in acoustics, noise and vibration engineering and his leadership in fostering innovation and excellence. A visionary academic administrator, researcher, and institutional leader, whose career embodies the rare synthesis of rigorous scientific inquiry and transformative educational governance.”

Dr. Mahavir Singh stands as a luminary in the realm of technical education and applied sciences in India. A visionary academic administrator, researcher, and institutional leader, his career embodies the rare synthesis of rigorous scientific inquiry and transformative educational governance.

As Chief Scientist, Head of Acoustics & Vibration Metrology, Professor of AcSIR, and Advisor to the Director at CSIR–National Physical Laboratory (CSIR-NPL), Dr Singh provided exemplary leadership in national and international metrology programs, environmental noise regulations, and acoustic standards that continue to benefit industry, infrastructure, and society. Currently serving as Principal Director of K-IIT College of Engineering, Gurugram, and President of the Acoustical Society of India (ASI), Prof. Singh has emerged as a leading voice in promoting excellence in engineering education, scientific research, innovation-driven learning, and sustainable technological development.

His distinguished scholarly accomplishments include more than 180 research publications, several landmark books, numerous invited lectures worldwide, successful supervision of doctoral scholars, and leadership of major national and international conferences. His expertise has contributed significantly to architectural acoustics, industrial noise control, transportation acoustics, building acoustics, vibration engineering, and environmental sustainability.

A recipient of numerous prestigious honours, including the Sir C. V. Raman Award, ICA-ASA Young Scientist Award, IEI Young Scientist Award, Lifetime Achievement Award in Acoustics & Vibration Metrology, Indo-Japan Friendship Award, and the Prof. S. Bhagavantam Award, Prof. Singh exemplifies scientific excellence, professional integrity, and dedicated service to humanity.

Beyond his institutional stewardship, Dr. Singh is a towering figure in the scientific community. Serving as the President of the Acoustical Society of India (ASI), he has provided stellar leadership to the advancement of acoustic science, noise and vibration engineering and architectural acoustics in the country. Through his visionary leadership, relentless pursuit of knowledge, and unwavering commitment to nurturing future generations of engineers, scientists and innovators, Prof. Mahavir Singh has become an inspiring role model whose contributions continue to elevate India's standing in the global scientific and academic community.

In recognition of his outstanding achievements, pioneering scientific contributions, transformative academic leadership, and enduring service to society, the World Academy of Higher Education and Development proudly confer upon Prof. (Dr.) Mahavir Singh the distinguished honour of **Fellow of Eminence**.

May his remarkable journey continue to inspire excellence, innovation, sustainability, and the pursuit of knowledge for the advancement of humanity.

Dr. P. R. Trivedi
Executive Chairman



15th July, 2026

Prof. P. B. Sharma
President

Citation



World Academy of Higher Education and Development (W-AHEAD)

with full honour confers upon



Prof. MARION BURGESS AM
Fellow of Eminence of W-AHEAD

for

“Her extraordinary lifetime contributions to Acoustics, Noise Control Engineering, Building Acoustics, Environmental Noise Management, Scientific Research, Higher Education, International Standardization, and Global Professional Leadership”

Prof Marion Burgess AM is an internationally acclaimed acoustician, distinguished educator, researcher, and visionary leader. Marion Burgess AM has devoted more than five decades to advancing the science and practice of acoustics. Her pioneering work has profoundly influenced environmental noise management, transportation acoustics, building acoustics, occupational noise control, hearing conservation, workplace vibration, and acoustic planning, benefiting governments, industries, academic institutions, and communities worldwide.

As Honorary Associate Professor at the University of New South Wales (UNSW), Australia, Marion Burgess has played an instrumental role in education, research, consultancy, and professional training. Her remarkable contributions have strengthened evidence-based approaches to noise assessment, acoustic design, environmental policy, and infrastructure planning while mentoring generations of acousticians, engineers, researchers, and students across Australia and internationally.

Marion Burgess has provided exceptional leadership to the global acoustics community through her distinguished service as President of the International Commission for Acoustics (ICA) and President of the International Institute of Noise Control Engineering (I-INCE). Her visionary leadership was central to the successful organization of the International Year of Sound 2020–2021, a landmark global initiative that united scientists, educators, industry leaders, and policymakers in promoting the importance of sound and acoustics for humanity.

A highly respected scholar and scientific editor, she served as Editor-in-Chief of Acoustics Australia from 2014 to 2021, successfully fully transforming the journal into a globally recognized Springer publication with significantly enhanced international visibility and scientific impact. She continues to serve as Associate Editor of the journal and as Editor of the Springer Acoustics Book Series, contributing substantially to the dissemination of high-quality scientific knowledge.

Her outstanding research spans environmental and occupational noise, transportation noise, building acoustics, cognitive effects of noise, aviation acoustics, workplace performance, hearing conservation, and sustainable acoustic environments. Through numerous internationally cited publications, keynote lectures, research grants, standards development activities, and consultancy assignments, she has significantly advanced the scientific understanding of acoustics and its application to public health, infrastructure, and environmental sustainability.

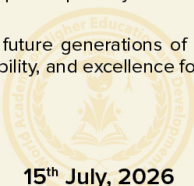
Throughout her distinguished career, Marion Burgess has received numerous prestigious honours, including appointment as a Member of the Order of Australia (AM) for her exceptional national and international contributions to acoustics and noise control. She is a Fellow and Life Member of the Australian Acoustical Society, an Honorary Fellow of the UK Institute of Acoustics, and recipient of the Caracola Award from the Spanish Acoustical Society, reflecting the highest international recognition of her scientific excellence and professional leadership.

Her unwavering commitment to research excellence, international collaboration, education, standardization, public policy, and the advancement of acoustical science has made Marion Burgess one of the most respected and influential figures in the global acoustics community.

In recognition of her outstanding scientific achievements, pioneering research, exemplary international leadership, exceptional service to higher education, and lifelong dedication to advancing acoustics for the benefit of humanity, the World Academy of Higher Education and Development proudly confer upon Prof Marion Burgess AM the distinguished honour of Fellow of Eminence.

May her remarkable legacy continue to inspire future generations of scientists, engineers, educators, innovators, and global leaders in advancing knowledge, sustainability, and excellence for the betterment of society.

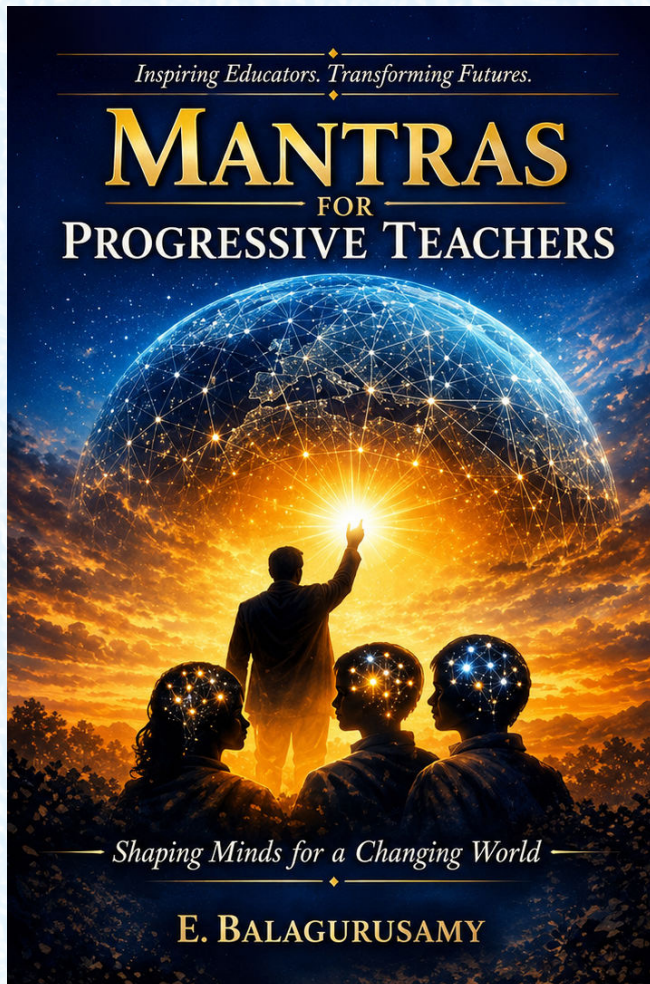
Dr. P. R. Trivedi
Executive Chairman



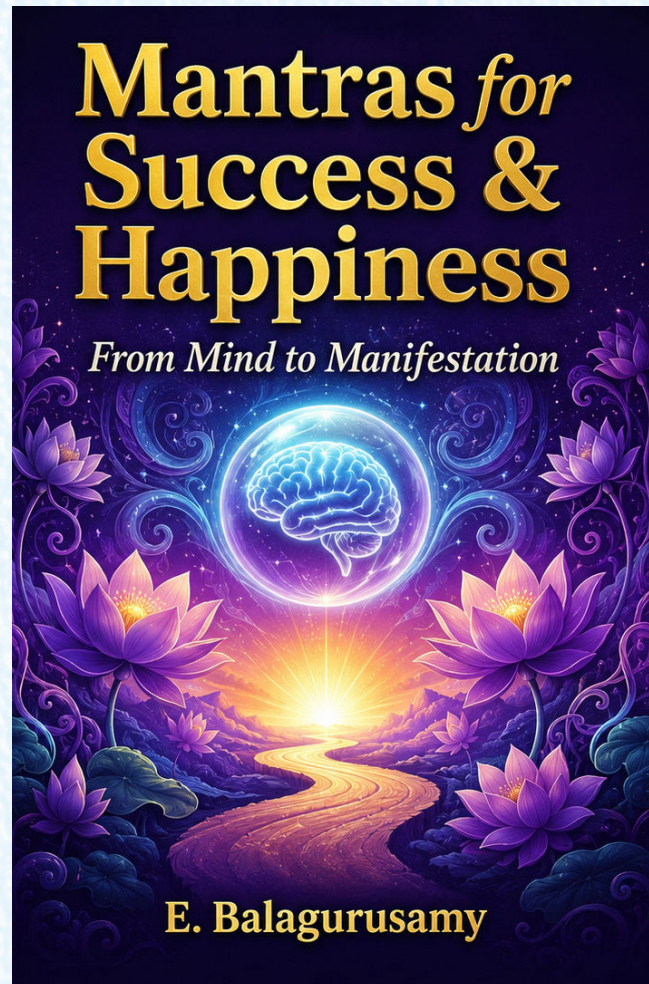
15th July, 2026

Prof. P. B. Sharma
President

W-AHEAD takes immense pride and consider it a matter of high honour to celebrate the Eminence of Prof. E Balagurusamy and Launch of his thought provoking books on “Mantras for Progressive Teachers” and “Mantras for Success & Happiness” published by Allied Publishers Pvt. Ltd.



“The book focuses on the essential role of teachers in "Shaping Minds for a Changing World," offering a collection of guiding principles or "Mantras" designed to empower educators in their mission to foster growth and innovation within the classroom and outside. By emphasizing a progressive approach, the work serves as both a source of inspiration and a practical framework for teachers aiming to adapt their methodologies to meet the evolving demands of modern education.”



“The book focuses on leveraging the power of the mind to achieve personal fulfilment and professional success, providing readers with actionable "Mantras" or principles designed to bridge the gap between intention and realization. By exploring the connection between cognitive focus and tangible outcomes, this work acts as a roadmap for those seeking to cultivate a positive mindset and manifest their aspirations in their daily lives.”



Global Innovation/Entrepreneurship Excellence Awards:

IIT Roorkee : Innovation Team - I

Flabs- Redefining Diagnostics in India

Website: <https://flabslis.ai/>

Yash Chaudhary, Founder and CEO Flabs, Email: Yash@flabs.in

India's diagnostic sector has long struggled with fragmentation — thousands of independent labs running on paper registers, WhatsApp reports, and disconnected billing systems. Flabs is changing from the ground up. At its core, Flabs is a cloud-based Lab Information Management System (LIMS) built specifically for the Indian diagnostic context — not adapted from Western enterprise software but designed around how Indian labs actually operate. From small single-centre pathology labs to multi-branch diagnostic chains, Flabs brings workflow automation, digital report delivery, and real-time business analytics into a single, affordable platform.

What makes Flabs distinct is its accessibility. Historically, LIMS solutions were the preserve of large hospital chains. Flabs democratize that infrastructure for the Tier 2 and Tier 3 lab owner — the radiologist running two branches in a mid-sized city, or the pathologist expanding beyond their first centre. Beyond software, Flabs is building the data layer of Indian diagnostics. As labs standardize on a common platform, aggregated insights on turnaround times, test volumes, and operational benchmarks become possible at scale — giving the industry its first real visibility into how diagnostic care is actually being delivered across the country.

IIT Roorkee : Innovation Team - II

Akashalabdhi Pvt. Ltd

Dr. Siddharth Jena, Founder, CEO, Co-Founders, Email: siddharth@akashalabdhi.space
Dr. Durgesh Banswar and Debarghya Ghosh

Akashalabdhi is developing an inflatable space array as an integrated deployable platform for future small-satellite and orbital payload applications. The innovation combines lightweight inflatable structures, space-compatible materials, radiation protection layers, solar power generation, and compact avionics into a single scalable architecture. The structure is designed to remain compact during launch and expand after deployment, enabling a larger functional surface area without the mass and volume penalties of conventional rigid systems. Material development focuses on flexible membranes, reinforcement fabrics, sealing methods, and bonding processes suitable for vacuum, thermal cycling, and mechanical loading. Radiation-layer work addresses protection of internal electronics and functional

surfaces through multilayer barrier concepts and absorptive coatings. The solar power



Fig- A 500-liter module of inflatable habitat

subsystem integrates lightweight photovoltaic surfaces, power routing, regulation, and energy management to support mission operations after deployment. Avionics development includes deployment control, sensing, health monitoring, telemetry, and command interfaces for reliable autonomous operation.

Together, these efforts create an indigenous, modular inflatable array technology that can support power generation, antenna surfaces, drag-sail concepts, or payload deployment systems. The work demonstrates Akashabaddhi's capability to convert advanced space-material research into practical deployable hardware for cost-effective, high-reliability space missions.

Delhi Technological University, DTU, Delhi

Unmanned Aerial Systems - (UAS-DTU)

Innovation Team: Prof. S.Indu, Faculty Advisor; Dr. Chhavi Dhiman, Faculty Advisor; Chirag Sehgal, Project Manager; Akshat Kaushal, Captain; Gunmay Jhingran, Vice Captain & Software head; Nishant Chandna, Vice-Captain & Avionics head; Aaditya Bhatia, Software head; Aditya Vikram Singh, Airframes head; Saksham Jain, Airframes head; Vedant K. Shankar, Software lead; Updesh Dua, Mechanical lead & UGV lead, Shivam Sharma, Deep learning and GUI lead, Vansh Dhama, Machine learning lead; Abhimanyu Singh, Autonomy lead; Vedansh Sachdeva, Avionics engineer; Amrit Dey and Vikrant Rathore, Mechanical lead.



Carrying forward the legacy of DCE-UAV of 2006 under the Innovative Inspiration from Prof PB Sharma, Director of DCE then (later Founder Vice Chancellor of DTU) and winning the Most Innovative Design Award from AUVSI Atlanta USA in the World Competition for the UAV designed and developed by the innovative genius of Jayant Ratti and his highly innovative team of undergraduates and successive teams of UAS-DTU, it is a matter of immense pride that the team supervised by Dr S Indu and Dr. Chhavi Dhiman and lead by Chirag Sehgal, Project Manager and Akshat Kaushal, Captain the

innovatively designed UAS-DTU secured 2nd place in the Self-Funded Category of the DARPA Triage Challenge–Systems Phase 2, held in Georgia, USA, earning a cash prize of USD 150,000. Competing against leading universities, research laboratories, and industry teams from around the world, this accomplishment of UAS-DTU highlights the global competence of the team's expertise in autonomous robotics, artificial intelligence, and disaster-response technologies, making all of us immensely proud of the team UAS-DTU 2026.



The team UAS-DTU deployed an ensemble of three fully in-house developed Unmanned Ground Vehicles (UGVs), engineered to operate autonomously in complex, unstructured, and dynamic environments. Each platform

integrated a sophisticated multi-modal sensor suite comprising LiDARs, stereo cameras, radar, microphone and speaker systems, GNSS, inertial sensors, and onboard edge-computing hardware. These robotic platforms autonomously traversed challenging terrain while performing navigation, localization, mapping, exploration, and casualty geotagging with minimal human intervention.

A key innovation of the project was the fusion of multi-modal sensing, autonomous decision-making, and contextual AI within a unified triage framework. By combining information

from RGB, infrared, and radar modalities, the team developed intelligent perception pipelines capable of non-contact assessment of critical medical indicators, including respiratory distress, severe hemorrhage, trauma, and patient alertness. Bringing together advances in autonomous navigation, sensor fusion, edge AI, human-robot interaction, and AI-driven decision support, the project demonstrated a scalable approach to robotic triage and highlighted the potential of autonomous systems to enhance emergency response during natural disasters, industrial accidents, plane crashes, and conflict-zone Operations.

Delhi Technological University, DTU, Delhi

AI-integrated Bio-Solar Panel Technology

Innovation Team: Mentor - Prof Jaigopal Sharma, Professor of Biotechnology, Innovators - Ms Shubhika and Mr Pradeep Patel

The Innvators team of DTU mentored by Prof Jaigopal Sharma and lead by Ms Shubhika and Mr Pradeep Patel secured Second Position at the Rajasthan Green Innovation Challenge (RGIC 2026), organized by the Rajasthan State Pollution Control Board in collaboration with MNIT Jaipur. The team was awarded a prize of 15 lakh and shall work with the Rajasthan PollutionControl Board in future initiatives related to their innovative “AI-integrated Bio-Solar Panel technology”.

The innovation converts organic fruit waste into a functional bio-based solar panel, promoting sustainable waste utilization and clean energy generation. Designed as an environmentally friendly and circular-economy-driven solution,

the technology integrates artificial intelligence and smart sensing capabilities to optimize performance under diverse environmental conditions. The technology represents a major breakthrough in Made-in-India Bio-Solar Panel developed from organic fruit waste, showcasing indigenous innovation in renewable energy and supporting the vision of Atmanirbhar Bharat.

The team was felicitated by the Hon'ble Chief Minister of Rajasthan, Shri Bhajan Lal Sharma, recognizing the project's potential contribution to sustainable energy, waste valorization, environmental conservation, and the development of green technologies for a cleaner future.



TRIVOLT TILES

“Transforming Footsteps into Sustainable Energy Solutions”

Trivolt Tiles is an innovative Smart Energy Generating Floor System developed by a team of undergraduates of KIIT Gurugram to transform ordinary human footsteps into valuable electrical energy through advanced energy-harvesting technology. By converting pressure and mechanical vibrations generated during walking into usable power, this solution presents a smart and sustainable approach for future infrastructure.



Designed with the vision of supporting clean energy, smart cities, and environmental sustainability, Trivolt Tiles can be effectively deployed in high-footfall areas such as educational institutions, railway stations, airports, shopping centres, public walkways, and smart buildings. This innovation demonstrates how everyday human movement can become a renewable energy source—reducing environmental impact, improving energy efficiency, and contributing to greener urban ecosystems.

Innovators:



Mr. Lucky



Ms. Sanya Ali



Ms. Khushi Verma

Acropolis Institute of Technology and Research, Indore, MP

Innovation Team – I : Aarogya Jal

Innovators : Shubh Sharma (Team Leader), Priyanshu Sharma, Lovekush Nagda, Riya Dhakad, Kshitij Chitranshi, Ishan Raut
Mentor: Shri Gaurav Sojatia, Chairman, Acropolis



Aarogya Jal is an innovative health surveillance platform designed to address the growing challenge of water-borne diseases through the integration of Artificial Intelligence (AI) and Internet of Things (IoT) technologies. The system continuously monitors water quality parameters such as pH, turbidity, temperature, and Total Dissolved Solids using low-cost sensors connected to ESP32-based hardware modules.

In addition to environmental monitoring, Aarogya Jal enables community-level symptom reporting through an offline-capable multilingual mobile application. Data collected from sensors, ASHA workers, citizens, and healthcare personnel is aggregated into a centralized platform for analysis. The system employs machine learning techniques to identify abnormal patterns, predict potential disease outbreaks, and generate risk assessments for specific regions. The work has been recognized at Smart India Hackathon 2025 and won 1st Prize in its category. It demonstrates a scalable, affordable, and impactful solution for improving water safety and safeguarding public health.



Acropolis Institute of Technology and Research, Indore, MP

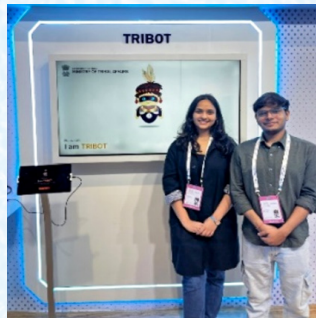
Innovation Team – II: TribalDesk

Innovators: Mr. Jayesh Malviya and Ms. Ishika Jain

Mentor: Shri Gaurav Sojatia, Chairman, Acropolis

TriBOT and TribalDesk

are AI-driven digital solutions developed for the Ministry of Tribal Affairs (MoTA), Government of India, with the objective of improving access to tribal welfare information and enhancing administrative efficiency. TriBOT is an intelligent chatbot built using Retrieval-Augmented Generation (RAG), Large Language Models (LLMs), vector databases, and semantic search technologies. The system enables citizens, officials, and stakeholders to ask questions in natural language and receive accurate, context-aware responses from government policy documents, welfare schemes, guidelines, and circulars. By replacing manual document searches with AI-powered retrieval, TriBOT significantly



reduces information access time and improves transparency in public service delivery.

TribalDesk is a comprehensive knowledge management and workflow automation platform designed to organize, classify, retrieve, and manage large volumes of government documents. The platform integrates document ingestion pipelines, intelligent search, vector embeddings, and workflow management tools to streamline administrative processes. It enables efficient handling of tribal welfare records and supports data-driven decision-making.



Genvolve Pvt Ltd

Genvolve : Evolve with the Zen

“Transforming Footsteps into Sustainable Energy Solutions”

Genvolve is a purpose-built AI learning companion designed specifically for children aged 6 to 14. Unlike existing AI tools that are built for adults and merely filtered for younger users, Genvolve is architected from the ground up with child safety, age-appropriate interaction, and active parental involvement at its core.



The platform offers children an engaging AI experience through text and voice-based conversations, daily learning challenges, AI-powered image generation, practice quizzes, custom themes, and multilingual support — all within a safe, controlled environment. For

parents and guardians, Genvolve provides a comprehensive coaching dashboard with complete conversation visibility, customisable topic restrictions, real-time content alerts, learning progress insights, and screen time controls.



Mr Arjun Dhawan is a young entrepreneur and the Founder & CEO of Genvolve Private Limited. He is currently in his final year of the Bachelor of Business Analytics at Deakin University, Melbourne, Australia, where he has consistently demonstrated a strong blend of academic excellence and entrepreneurial drive.

Jellyfish Technologies

Transforming Businesses through Innovative Software Solutions and Technologies



JELLYFISH
TECHNOLOGIES

Founded in 2011, Jellyfish Technologies is a leading software development company in Noida (UP) providing custom software solutions and digital products to businesses of all sizes—startups, SMEs, and enterprises. The Company specializes in delivering reliable, scalable and secure software, harnessing the power of AI, Big Data, and Machine Learning. The mission of Jellyfish Technologies is to drive business growth and efficiency through advanced, technology-driven innovative solutions tailored around the needs of its customers.

The Company is headed by Mr Gaurav Chauhan, CEO with Mr Amit Pandey as its CTO and Mr Neeraj Kumar as COO.



With its client network spread over USA, Canada, Middle East, Australia, Africa, Asia and South America, the Jellyfish is leading in providing innovative business solutions over a canvas of multi-disciplines ranging from Fintech, Healthcare, EdTech and Supply Chain and Logistics.

NAYAN Technologies

AI-Powered Road and Smart Traffic Monitoring



NAYAN®

NAYAN is a pioneer in enterprise AI solutions, enabling organizations to modernize operations and tackle the complexities of today's digital landscape. Through our advanced AI technologies and strong partner ecosystem, we help clients streamline processes, accelerate decision-making, and stay ahead in a competitive market.

Rooted in academic innovation, NAYAN develops original, cutting-edge AI tools that are fast, scalable, and cost-effective. Our platform is designed for effortless horizontal and vertical scalability, making it easy to adapt across industries with minimal customization.

The Founder & Managing Director of Nayan Technologies, Dr Jayant Ratti is an illustrious Innovator of India's First UAV that bagged the Most Innovative Design Award in the World Competition in 2006 organized by UANVSI in USA. A Graduate of DCE Dr Jayant holds a Ph.D. degree in Robotics and Artificial Intelligence from the Georgia Institute of Technology in the US.



Dr Jayant holds over 100 Patents to his name and Leads councils for various cities to help in the smartness as a service to support the India Ecosystem.

Global Sustainability Excellence Award-2026

Raghuraj Peepal Man Foundation

Shri Raghuraj Pratap Singh, widely recognized as the "Peepal Man of India," is a young visionary environmentalist, social activist, agriculturist and a national UPSC aspirant dedicated to sustainable development and social reform. As the Founder and CEO of the Raghuraj Peepal Man Foundation and a Director at the PMG Group, he has spearheaded major ecological and youth-driven initiatives across the nation, including the One Crore Tree Plantation Mission and the Bharat Maha EV Rally to promote green mobility.

With over ten years of practical experience in organic and natural farming, his work specializes in Peepal-based agroforestry and tree-integrated

agriculture. He regularly conducts farmer workshops focused on Zero Budget Natural Farming and champions the eco-centric concept of "Jungle se Jan Jeevan tak". In addition to his agricultural focus, he is actively involved in developing nature-integrated, eco-smart real estate models and carbon-neutral housing in the Dholera Green Field Smart City.



W-AHEAD considers it a matter high honour to confer the Global Sustainability Excellence Award-2026 upon Shri Raghuraj Pratap Singh.



W-AHEAD Fellow of Eminence Prof. Nagendra Kumar Kaushik Receives Best Professor Award 2026 for Research Excellence



W-AHEAD proudly congratulates its Fellow of Eminence, **Prof. Nagendra Kumar Kaushik**, on receiving the **Best Professor Award 2026 for Research Excellence** in the Republic of Korea. This prestigious recognition acknowledges his exceptional contributions to scientific research, innovation, academic leadership, and international collaboration.

Prof. Kaushik is a globally recognized researcher and full Professor at Kwangwoon University, Seoul, Republic of Korea, where he has served for more than 15 years. His pioneering research spans plasma bioscience, biomedical engineering, nanotechnology, materials science, cancer biology, immunology, and pathogen control technologies.

Throughout his distinguished career, Prof. Kaushik has published **more than 300 peer-reviewed scientific articles**, including several publications in journals with impact factors exceeding 10. His research impact is reflected by an **H-index of 54**, an **i10-index of 180**, and more than 11 thousand citations from researchers worldwide. He has also secured several patents and technology innovations with translational and industrial relevance.

In recognition of his scholarly excellence, Prof. Kaushik was listed among the **Top 1% Highly Cited Researchers at Kwangwoon University in 2024** and has been recognized among the **World's Top 2% Scientists** by Stanford University and Elsevier for five consecutive years. His contributions have earned him more than 12

international awards and honors, highlighting his influence on the global scientific community.

Beyond research, Prof. Kaushik actively contributes to academic leadership and scientific publishing. He serves as **Editor, Associate Editor, or Editorial Board Member of more than 20 international journals** and holds leadership positions in several academic societies worldwide. He is also currently serving as **President of the Indian Community Chamber of Korea (Indians in Korea, IIK)**, promoting academic, industrial, and cultural collaboration between Korea and the international community.

His numerous distinctions include the **Honorary Citizenship of Seoul**, the **Minister of the National Assembly Award**, the **Early Career Plasma Medicine Award** from the International Plasma Medicine Association (USA), and elections as a **Fellow of the Royal Society of Chemistry (FRSC)**. These achievements reflect his enduring commitment to scientific excellence, innovation, and global engagement.

W-AHEAD celebrates this remarkable accomplishment and extends its heartfelt congratulations to Prof. Kaushik. His achievements continue to inspire researchers, educators, and students worldwide, exemplifying the values of academic excellence, leadership, and societal impact.

Congratulations to Prof. Nagendra Kumar Kaushik on this well-deserved honor. W-AHEAD wishes him continued success and many more achievements in the years ahead.



National Seminar on “Application of Shastrartha in the Present Time

Seminar organized by the Indian Council of Philosophical Research (ICPR), Ministry of Education, Government of India, in collaboration with Bharat Bodh Kendra, India Habitat Centre, New Delhi

New Delhi, 21 June 2026: The Indian Council of Philosophical Research (ICPR), Ministry of Education, Government of India, in collaboration with Bharat Bodh Kendra, India Habitat Centre (IHC), successfully organized a two-day National Seminar on “Application of Shastrartha in the Present Time” on 20–21 June 2026 at IHC, New Delhi.

The inaugural session of the seminar was graced by Shri Vijender Gupta, Hon’ble Speaker of the Legislative Assembly of the NCT of Delhi, as the Chief Guest. Prof. Ramesh Kumar Pandey, Former Vice-Chancellor of Shri Lal Bahadur Shastri National Sanskrit University, New Delhi, attended as the Guest of Honour.



In his keynote address, Shri Vijender Gupta described Shastrartha as the soul of the Indian Knowledge System. Expressing concern over the present information-driven age, he observed that people, particularly the youth, are gradually losing the ability to listen to and understand differing viewpoints, which poses a serious challenge to a healthy society. He remarked that healthy discussions grounded in facts and reason strengthen democracy.

On the occasion, Prof. Sachchidanand Mishra, Member Secretary, ICPR, stated that Shastrartha is India’s timeless discipline of dialogue, wherein ideas are examined through reasoning, evidence, and mutual respect rather than confrontation. He observed that in an era marked by polarization, misinformation, and shrinking opportunities for meaningful discourse, the spirit of Shastrartha offers a constructive pathway for intellectual engagement and knowledge creation.

The seminar featured seven technical sessions focusing on the application of Shastrartha in the fields of the Indian Knowledge System, law, political science, media studies, psychology, history, and research methodology. It witnessed the participation of professors, and research scholars from leading universities and institutions including Jawaharlal Nehru University (JNU), the University of Delhi (DU), Jamia Millia Islamia, NCERT, NIEPA,

Amity University, and Bennett University, among others.

At the valedictory session held on 21 June 2026, Prof. (Dr.) K. G. Suresh, Director, India Habitat Centre, stated that the tradition of Shastrartha provides a lasting foundation for reasoned dialogue, intellectual humility, and knowledge creation. He emphasized that Shastrartha encourages critical thinking and constructive engagement and can make meaningful contributions to contemporary domains such as media, education, governance, and public policy.

Emphasizing the indispensable relevance of Shastrartha in contemporary times, Siddheshwar Shukla, Academic Coordinator of the Seminar, stated that Shastrartha is a disciplined methodology of knowledge that nurtures clarity of thought and constructive engagement. He described Shastrartha as a form of “Intellectual Yoga.”

The seminar concluded with a collective resolve to advance the spirit of Shastrartha as a robust, inclusive, and dynamic methodology of dialogue and knowledge creation, capable of providing new directions to contemporary scholarship, public discourse, and national development.

Contributed by: **Shri Siddheshwar Shukla**, Academic Coordinator of the Seminar

Viksit Bharat@2047 demands Ethical Citizens- Not Just Skilled Graduates

Prof. E. Balagurusamy



“Education must move beyond the narrow goal of producing degree holders. Its larger mission should be to create ethical citizens, responsible professionals, and principled leaders. Only then can India realize its dream of becoming not merely a developed nation, but also a morally strong and globally respected for their talent and integrity.”

India has set for itself an ambitious national goal—**Viksit Bharat@2047**, a vision of becoming a developed nation by the centenary of Independence. The success of this vision depends not only on economic growth, technological advancement, and infrastructure development, but also on the quality of its human resources. A nation may produce millions of graduates, engineers, doctors, managers, and scientists, but if they lack integrity, ethical values, and social responsibility, sustainable development becomes difficult.

Today, there is a growing concern among educators, employers, policymakers, and civil society that India is facing a serious challenge in nurturing ethical and responsible citizens. While our education system has made remarkable progress in expanding access and increasing enrolment, it has not paid adequate attention to character formation, value education, and ethical conduct. As a result, there appears to be a three-dimensional crisis in higher education: **loss of scientific ethics, decline in professional morals, and erosion of personal integrity.**

The Crisis of Scientific Ethics

Scientific research is expected to be guided by honesty, objectivity, transparency, and respect for truth. Unfortunately, incidents of plagiarism, data fabrication, falsification of results, and unethical publication practices have become increasingly common in academic circles. The pressure to publish papers, secure promotions, and improve institutional rankings has led some researchers to compromise ethical standards.

Several universities and research institutions have witnessed cases where academic misconduct has damaged credibility and public trust. Scientific progress cannot be built on manipulated data or copied research. A nation

aspiring to become a global leader in innovation must ensure that its scientific community adheres to the highest standards of research ethics. The challenge is not merely one of regulation but of education. Students must be taught from an early stage that scientific inquiry is a search for truth and not merely a pathway to academic rewards.

Declining Professional Morals

Professional education in India has expanded enormously over the past three decades. Thousands of institutions produce graduates in engineering, medicine, management, law, and other fields. However, professional competence alone is not sufficient. Society expects professionals to act responsibly and ethically.

Instances of corruption, malpractice, misuse of authority, financial irregularities, and neglect of professional duties continue to surface in various sectors. Employers often report that while many graduates possess technical qualifications, they lack essential values such as honesty, accountability, discipline, teamwork, and respect for ethical norms. The purpose of professional education should be to create not only skilled workers but also responsible professionals who place public interest above personal gain. Ethical decision-making should therefore become an integral part of every professional curriculum.

The Erosion of Personal Integrity

Perhaps the most worrying aspect of the crisis is the gradual decline of personal integrity. Integrity is the foundation of trust. It is the quality that enables individuals to do the right thing even when no one is watching.

In many educational institutions, students are often evaluated primarily on marks, ranks,

and placements. Success is increasingly measured by material achievements rather than by character, honesty, or service to society. Consequently, some students grow up believing that outcomes matter more than the means used to achieve them. The widespread acceptance of shortcuts, unfair practices, and academic dishonesty sends a dangerous message to young minds. If integrity is compromised during education, it becomes difficult to expect ethical behavior later in professional and public life.

Where Does the Education System Fall Short?

The Indian education system has traditionally emphasized academic performance and examination results. Character building, moral development, and civic responsibility have gradually moved to the margins. Many schools and colleges treat ethics-related subjects as formal requirements rather than essential components of education. Students often memorize concepts for examinations without internalizing the values behind them. Moreover, the hidden curriculum—the behavior of teachers, administrators, and institutions—sometimes contradicts the ethical principles being taught.

Education should not merely inform the mind; it should also transform the character. Unfortunately, the current system often prioritizes employability over humanity and competition over compassion.

The Implications for Viksit Bharat 2047

The vision of Viksit Bharat 2047 extends beyond economic indicators. A truly developed nation is characterized by strong institutions, responsible citizenship, social trust, rule of law, scientific temper, and ethical leadership.

Without integrity, economic growth can be undermined by corruption. Without professional ethics, public services can lose credibility. Without scientific ethics, research and innovation can lose global respect. Without moral values, social harmony and democratic institutions can weaken. Therefore, ethical development must be viewed as a national priority. The success of Viksit Bharat 2047 will depend not only on the

number of graduates India produces but also on the values they uphold.

The Way Forward

Addressing this challenge requires a comprehensive and sustained effort.

First, ethics and value education should be integrated across all levels of education rather than confined to a few isolated courses. Ethical reasoning, civic responsibility, environmental consciousness, and social commitment should become part of everyday learning.

Second, institutions must establish strong systems to prevent plagiarism, academic misconduct, and unethical research practices. Integrity should be rewarded and violations should be dealt with firmly and transparently.

Third, teachers must serve as role models. Students learn as much from the behavior of their teachers as from textbooks. Ethical leadership in educational institutions is therefore essential.

Fourth, community service, social engagement, and experiential learning should become important components of education. Such activities help students develop empathy, responsibility, and a sense of public duty.

Finally, parents, educational institutions, industry, government, and society must work together to create an environment where ethical conduct is valued and respected.

Conclusion

India possesses one of the world's largest youth populations—a tremendous demographic advantage. This youth power can become the driving force behind Viksit Bharat 2047. However, demographic strength alone is not enough. The nation needs young citizens who combine knowledge with wisdom, competence with character, and ambition with integrity.

Education must therefore move beyond the narrow goal of producing degree holders. Its larger mission should be to create ethical citizens, responsible professionals, and principled leaders. Only then can India realize its dream of becoming not merely a developed nation, but also a morally strong and globally respected one.

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Architecting the Future: Nurturing Excellence, Integrity, and Trust in Indian Higher Education

Prof PB Sharma & Sanskrit Sharma



“ By demanding uncompromised excellence in our classrooms, embedding rigorous, tech-driven integrity into our national testing portals, and fostering trust through supportive, fair, and equitable examination formats, India can transform its massive demographic dividend into a global powerhouse of talent, innovation and enterprising spirit as the young India is inspired and innovative to cocreate a bright future and be the crusaders of creating Viksit Bharat@2047. ”

India stands at a pivotal crossroads. With one of the largest youth populations in the world, the nation's future relies heavily on the strength of its higher education ecosystem. As we navigate the complexities of the 21st century, driven by rapid technological shifts and global interconnectedness, our educational institutions must evolve from mere degree-granting factories into hubs of innovation, character, and world-class capability.

To truly architect a future where India leads on the global stage, the education sector must anchor itself to three non-negotiable pillars: Excellence, Integrity, and Trust. Central to this framework is a robust, foolproof mechanism for testing and evaluation, ranging from routine school and college level assessments to high-stakes entrance examinations for professional courses. The track record of entrance examinations and even of the central secondary examinations leaves a lot to be desired. The emergent crisis of integrity and trust cannot be over emphasised given the monumental challenge posed by the recent CBSE mismanagement of scanning of the answersheets and paper leak of the national level entrance examination like NEET.

Let us take a close look at the three important pillars of education and examination systems that our forefathers considered absolute must for the education ecosystem in the Gurukuls of ancient India that Made India the Viswa Guru then. *Excellence, Integrity, and Trust* were non-negotiable to the Gurukul system of education in ancient India and so was the emphasis on character building in those who seek education and empowerment of knowledge and skills of science and technology.

1. The Pillar of Excellence: Redefining Academic Standards

For decades, education in post independence India was largely defined by rote learning, rigid disciplinary silos, and a hyper-focus on memorization. The examinations were also to assess what was taught from the books of knowledge and the assessment was of your memory and at best the speed with which you could remember and describe. Achieving true excellence requires a paradigm shift in how we approach both learning and assessment.

Interdisciplinary Flexibility: The rigid walls between science, commerce, and the humanities are dissolving. A software engineer today is open to trying out his capabilities of software and application development over a wide spectrum of activities and sectors of human endeavour. Be it market intelligence, large data analytics or optimising supply chain or designs for sustainability or mange organisations and their work flow at a global scale, every where you find a softwate engineer today and an AI Expert Agent tomorrow making the system work more efficiently and in conformance with the growing demands for compliance of sustainability and data integrity and cyber security, A historian likewise, thrives with data analytics. Fully realizing the multi-disciplinary approach outlined in the National Education Policy (NEP) 2020 is therefore crucial and thus requires building interdisciplinary flexibility in designing the academic curriculum and extending learning beyond set disciplinary requirements.

We need not overemphasise that interdisciplinary team work has resulted into demonstrable high gains in organisations like ISRO, BARC and DRDO in India where interdisciplinary pursuit has been the hall mark of mission orientation for pathbreaking success that receive global recognition and acclaim for India's science and technology prowess, for Chandrayan and SpaceDex and also for India's highly impressive Missile program as also for the IT industries world wide.

Modernizing Assessment Paradigms:

Excellence in education cannot be measured by a student's ability to reproduce a textbook in a three-hour exam. At the school and college levels, examinations must shift from testing memory to evaluating critical thinking, conceptual clarity, and problem-solving abilities. An important element of the assessment system should also access the honesty and integrity of the students and their inner strength to serve the humanity and Mother Nature with delight and distinction.

Research and Innovation Integrity: Universities must foster a culture of inquiry, securing better funding for research, encouraging patent generation, and solving localized, as well as both local and global real-world challenges. Here again nurturing ethical and moral dimensions of both the knowledge base and that of the researchers should form an important aspect of research methodology and assessment of research outcomes by the examiners. Reliability and integrity of data sets and tools used for research are also the areas that the assessment of research needs to focus.

2. The Core of Integrity: Securing the Sanctity of Examinations and Research

Excellence without integrity is hollow. If the mechanisms that measure and reward merit are compromised, the entire intellectual capital of the nation is devalued. High-stakes entrance exams, such as those for engineering, medicine, and central universities, serve as the gateways to opportunity for millions of youths. Preserving their sanctity requires deep systemic reforms and positioning of people of high integrity and track record of managing this vital activity and its systems with a firm resolve and an uncompromising spirit. It is doable provided the

organisations like NTA are headed by people of exemplary conviction and resolve. After all, one TN Seshan was enough to ensure integrity and sanctity of the Election Commission of India. Why it cannot be done in NTA?

3. Cultivating Trust: Building Stakeholder Confidence in Evaluation and Outcomes

Trust is the social contract that binds students, parents, employers, and the government to the educational system. If stakeholders lose faith in the fairness of testing, the credibility of our entire human capital index collapses. The prime question, however, is how to build trust that we have lost in our education for employability and for nurturing curiosity and character. Same question applies to examination and assessment system of today.

It is ironical that when I (Prof PB Sharma) was born, there was no such loss of trust in the education and examination system. The teachers were teachers of conscience and of high integrity. For them education was not a career but a service to humanity to build competence and character in their students. They never cared for their promotion or choice postings and even salaries. For them respect and trust of people in their nobility and integrity was their richest wealth that they cherished. Remember those were 1950s and 1960s, early years after independence of our great nation. But do not forget that those were also the days when people in society were aligned to truth and righteous behaviour and practiced human values of integrity and honesty as their biggest values and virtues. The education system that we were handed over by the British could not make people of India to move away from Satyamaiva Jayate, nor could destroy the integrity and honesty of the character of the people at large. Telling a lie was the biggest sin, *adharma* and engaging in theft of information or copying in examinations was not heard of. Today, 78 years after independence, we are searching for ways to nurture truthfulness and integrity in public and professional life !. It may sound radical, but the fact is that no one from outside India but we ourselves have destroyed integrity and trust in our education and examination system.

I, myself went out on National Scholarship to study in UK for my master's and doctorate in

engineering. There also I found highest levels of integrity and ultra-fairness in examinations and assessment. It was absolutely clean that the temples of learning cannot afford to do wrong and allow loss of integrity and trust in schools, colleges and in universities. Paper leaks were unheard of, examiners were the 'examiners of integrity' and teachers were the noblest 'citizens of conscience'. Same was the case with all the developed nations. That is why nobility, integrity and trust were and still are non-negotiable for teaching and research positions in developed nations.

I remember asking there my British friends, which are the jobs where utmost care and robust scrutiny is applied in selections?. The answer was the teachers and the police constables. That shows the regard for the nobility and integrity of these two services. Here in India, we perhaps paid scant regard to the nobility and integrity in recruitment of these two cadres of services, knowing very well that the future of the nation is nurtured by the nobility and integrity of its teachers and internal security and safely is assured by the integrity and devotion of police constables. India needs to take heed from the mistakes of the past and apply corrective actions to pay highest attention to nurturing nobility and integrity in education, health care and in civic services including police and governance,

4. The Road Ahead

Considering the rot that has set in education at all levels and the visible nexus of mediocrity and coaching and entrance examination mafia, India need to adopt both the crash measures as well as medium and long term measures to put the education and examination system on tracks of excellence powered by integrity and trust.

Crash measures would require positioning persons of unmatched writ, insight and integrity like Shri TN Seshan to head organisations like NTA and CBSE and State Boards of Education. Such individuals with proven track records of honesty and integrity and determination to provide ethical leadership with a steely resolve be given the full freedom to rebuild trust and foster excellence and integrity in education system in the country at the central and the state levels. There is no dearth of persons of unmatched writ, insight and integrity in education landscape of a vast nation like India,

but it requires the national and state leadership to have the urge and courage to overnight amend the wrongs of mediocrity and inaptness that have been allowed to flourish for decades in education system in India.

On a medium and long term basis, once the crash measures begin to produce tangible results in respect of reestablishing the trust and creating islands of integrity and excellence, systemic reforms could be conceived and implemented to sustain the tempo of excellence and integrity.

But let the new avatars of TN Seshan like persons of courage and writ, not make the same mistake that Mr Seshan himself made by offering himself for election to the coveted position of the President of India and sought votes from the same very politicians whom he disciplined during his days as the Chief Election Commissioner of India. Teachers of conscience and the persons of writ and unmatched integrity and insight should never submit themselves for any favour, reward or award, else they will be defeated and demortified as Mr Seshan was for ever.

Also not forget that it is India where a Nobel Laureate of unmatched fame and wisdom was made to step down from building islands of excellence and integrity in science education and foster pathbreaking research in an institution as reputed as IISc. For many it may be a news that after earning his Nobel Prize for the Raman effect, Sir CV Raman was invited to head the IISc as its Director in 1933 and was asked to develop IISc as an institute of high eminence in world class scientific research. It was hoped that with Sir Raman leading an institute of science, India will foster a new era of scientific breakthrough that shall allow many more scientists to earn Nobel Prize in Science while working in Indian institutes. Sir CV Raman did try to shape IISc as an institute for pathbreaking original scientific research and took courage to depart from the conventional system of recruiting science education and research faculty. He in fact invited and inducted a number of new professors in IISc without advertisement and selection committees that usually are organised for faculty appointments. He offered attractive terms and conditions for the highly talented researchers from around the world to come and work at the Institute of Science. In 1935, Sir Raman invited Dr Max Born to be at the Institute as a Reader in

Theoretical Physics for a period of six months. Born was a renowned physicist who had laid the foundations of quantum mechanics, and he later received the Nobel Prize in 1954. The existing teachers at IISc then saw it as a major threat to their existence and lodged series of complaints against Sir Raman and his style of functioning. Sir Raman was forced to resign in 1937, however decided to continue as a Professor at IISc and despite disgust mooted upon him and his efforts to nurture excellence in scientific research, he gave to the nation eminent scientists like Dr Homi Bhabha and Dr Vikram Sara Bhai whom we are adorn today as the titans of Indian Science and Technology prowess. But then Mother India was deprived of any further Nobel in Science from Institutions of Science in India. The message is loud and clear that Indian Institutions are the toughest working grounds in the world for people of conscience and courage who wish to dare to shape India's education to eminence and integrity. But does not mean that we should

give up. Mother India has the capacity and also India is emerging as a great fertile ground for the people of extraordinary talent and intuition to dare try reshape and reform the landscape of education and research in India, now that a new India is in the making and that a new age of empowerment has descended.

Let us conclude that the time is right for emergent crash measures to put education and examination system on tracks of integrity and trust. By demanding uncompromised excellence in our classrooms, embedding rigorous, tech-driven integrity into our national testing portals, and fostering trust through supportive, fair, and equitable examination formats, India can transform its massive demographic dividend into a global powerhouse of talent, innovation and enterprising spirit as the young India is inspired and innovative to cocreate a bright future for the current and future generations and be the crusaders of creating Viksit Bharat@2047.

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ADDRESSING INDIA'S SKILL GAP – A Comprehensive Solution for Building a Skilled Workforce

Dr. Priyaranjan Trivedi



India's skill gap is both a challenge and an opportunity. Rapid industrialization, technological advancement, and rising investment are creating unprecedented demand for skilled workers. Meeting this demand requires a comprehensive national strategy involving government, industry, educational institutions, and society. By modernizing vocational education, expanding apprenticeships, strengthening industry collaboration, promoting digital learning, empowering women and rural youth, encouraging entrepreneurship, and preparing for future technologies, India can transform its demographic dividend into a lasting economic advantage. A skilled India will drive industrial growth, attract investment, generate employment, reduce poverty, and emerge as the skill capital of the world.

India is at a crucial stage of development. With a population exceeding 1.4 billion and one of the world's largest youth populations, the country possesses a significant demographic advantage. Government initiatives such as Make in India, Skill India Mission, Digital India, and Production Linked Incentive (PLI) schemes are attracting domestic and foreign investments, while industrial corridors, smart cities, logistics hubs, and technology parks are expanding rapidly. However, India's ability to fully benefit from these opportunities depends on its capacity to develop a skilled workforce.

A major challenge is the widening skill gap—the mismatch between the skills possessed by workers and those required by employers. While millions of young people enter the labor force every year, industries struggle to find workers with appropriate technical, vocational, digital, and soft skills. At the same time, many educated youth remain unemployed or underemployed because their qualifications do not align with industry needs. This skill gap affects economic growth, social development, industrial productivity, and national competitiveness.

The mismatch is evident across sectors including manufacturing, construction, healthcare, information technology, logistics, agriculture, renewable energy, and emerging technologies. Industries report shortages of technicians, machine operators, electricians, welders, supervisors, and other skilled personnel. New sectors such as artificial intelligence, robotics, semiconductor manufacturing, and green energy require specialized skills that are still scarce. Vocational education reaches only a small proportion of the workforce, while rural youth often lack access to quality training

institutions.

Several factors contribute to the skill gap. First, Indian society traditionally places greater value on academic degrees than vocational education. As a result, millions pursue general university degrees while industries face shortages of skilled technicians and tradespeople. Vocational careers continue to suffer from low social prestige despite their strong employment potential.

Second, many educational institutions follow outdated curricula that emphasize theory rather than practical learning. Students often receive limited exposure to modern equipment, industry projects, and workplace environments, forcing employers to spend significant resources on retraining.

Third, vocational training infrastructure remains inadequate. Although Industrial Training Institutes (ITIs) and polytechnics exist, many suffer from outdated machinery, poor laboratories, insufficient trainers, and weak industry collaboration. Rural areas are particularly underserved.

Fourth, rapid technological change is transforming industries through automation, robotics, artificial intelligence, the Internet of Things, data analytics, and smart manufacturing systems. Educational institutions often struggle to update programs quickly enough to keep pace.

Fifth, weak industry-academia collaboration results in training that does not reflect workplace realities. Students receive limited industrial exposure, and employers face difficulties finding job-ready workers.

Sixth, regional disparities create unequal opportunities. Urban centers generally have better educational facilities, while rural youth face challenges such as poor transportation, limited digital infrastructure, and lower awareness of career opportunities.

Finally, inadequate career guidance systems leave many students unaware of labor market demands. Schools often lack career counselors, skill assessments, and industry exposure programs, leading students toward fields with limited employment prospects while high-demand occupations remain understaffed.

Addressing the skill gap is critical for several reasons. Skilled labor is essential for industrial expansion, productivity growth, and economic development. Skill development improves employability, reduces youth unemployment, attracts global investment, strengthens social stability by reducing poverty and inequality, and promotes innovation and entrepreneurship.

A comprehensive strategy is therefore required. The foremost priority is transforming vocational education by elevating it to the same status as academic education. ITIs and polytechnics should be modernized with advanced equipment, improved trainer quality, and greater funding. Vocational pathways should begin at the secondary-school level so that vocational education becomes a respected career choice rather than a second option.

Skill education should also be introduced in schools. Students should gain exposure to engineering basics, coding, electronics, carpentry, electrical work, agricultural technology, and entrepreneurship. Early exposure to multiple trades can help identify talents, increase awareness, and improve future employability.

Apprenticeship programs must be expanded significantly. Countries with strong industrial economies rely heavily on apprenticeships to develop practical skills. Governments should provide incentives, tax benefits, and regulatory support, while industries should increase apprentice intake and collaborate closely with training institutions. Real workplace experience remains one of the most effective forms of learning.

Industry-academia partnerships should be strengthened through joint curriculum development, internship programs, faculty training, industry-sponsored laboratories, and guest lectures by professionals. Continuous collaboration ensures that education remains

practical and relevant.

India should establish sector-specific skill universities focused on priority industries such as automotive manufacturing, electronics, semiconductors, renewable energy, healthcare, logistics, and aerospace. These institutions can serve as centers of excellence, innovation, and advanced workforce development.

Trainer development requires massive investment. A successful skill-development system depends on competent instructors. National trainer certification programs, industry immersion opportunities, continuous professional development, and performance-based incentives are essential to maintain training quality.

Digital technology can dramatically expand access to skill development. Online learning platforms, virtual laboratories, simulation-based training, mobile learning applications, and AI-powered personalized learning systems can reach remote and underserved populations while making training more flexible and scalable.

Because technology evolves rapidly, lifelong learning must become a national priority. Workers should continuously upgrade their skills in new technologies, management practices, digital tools, and safety standards. Government and industry should jointly support ongoing reskilling and upskilling programs.

Women's participation in skill development and the workforce must increase substantially. Measures such as safe transportation, flexible training schedules, childcare facilities, scholarships, and awareness campaigns can help unlock the enormous potential of India's female population.

Rural skill ecosystems must also be strengthened through district skill centers, mobile training units, village digital learning hubs, and industry-linked rural training institutes. Training programs should align with local economic opportunities and regional development needs.

The range of vocational opportunities should be expanded considerably. Traditional trades such as electrician, plumber, welder, carpenter, and mechanic remain important, but emerging industries require new occupations. These include CNC machine operators, robotics technicians, automation specialists, semiconductor technicians, quality-control technicians, solar-panel installers, wind-turbine technicians, energy auditors, electric-vehicle technicians, data analysts, cybersecurity technicians, cloud-support specialists, AI

assistant trainers, digital marketing specialists, medical technicians, geriatric caregivers, telemedicine assistants, medical equipment operators, warehouse automation operators, supply-chain coordinators, and cold-chain technicians. Expanding vocational categories can generate millions of employment opportunities.

Industry must play an active role by forecasting future skill requirements, investing in training centers, supporting apprenticeships, modernizing curricula, and certifying competencies. Skill development should be viewed as a strategic investment.

The Government of India should serve as the principal enabler by increasing funding, modernizing infrastructure, promoting apprenticeships, supporting digital learning, encouraging private-sector participation, and developing labor-market information systems. State governments should identify regional skill needs, establish district-level centers, facilitate industry partnerships, and monitor training quality.

Educational institutions must become employability-focused through outcome-based education, practical learning, industry projects, internships, and soft-skill development. Success should be measured not only by graduation rates but also by employment outcomes.

Employers increasingly value communication, teamwork, problem-solving, adaptability, leadership, digital literacy, and professional ethics. These soft skills should be integrated into all training programs.

Entrepreneurship should also be encouraged through startup mentoring, financial support, business incubation, and marketing assistance. Skilled entrepreneurs can create jobs and stimulate economic growth.

India must prepare proactively for future technologies including artificial intelligence, robotics, quantum technologies, semiconductor manufacturing, biotechnology, advanced materials, space technology, and green hydrogen. Training systems should anticipate future demand rather than react to it.

A National Skill Intelligence System should be created to track employment trends, identify shortages, forecast future demand, and guide policy decisions through real-time labor-market data.

Looking toward 2040, India should aspire to become the world's leading skilled-workforce hub. This vision includes universal access to skill training, strong vocational pathways, industry-integrated learning, global certification standards, high female workforce participation, and a culture of continuous reskilling. Achieving these goals would enable India to meet domestic workforce needs while supplying skilled talent to global markets.

In conclusion, India's skill gap is both a challenge and an opportunity. Rapid industrialization, technological advancement, and rising investment are creating unprecedented demand for skilled workers. Meeting this demand requires a comprehensive national strategy involving government, industry, educational institutions, and society. By modernizing vocational education, expanding apprenticeships, strengthening industry collaboration, promoting digital learning, empowering women and rural youth, encouraging entrepreneurship, and preparing for future technologies, India can transform its demographic dividend into a lasting economic advantage. A skilled India will drive industrial growth, attract investment, generate employment, reduce poverty, and emerge as the skill capital of the world.

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Degrees to Destinies: Why Life Skills Matter for Viksit Bharat 2047

Prof. (Dr.) Sanjna Vij



“Infrastructure is not the only way to build Viksit Bharat 2047. A prosperous and a developed nation will be built by capable, compassionate and responsible citizens, who will have the knowledge, skills and values to contribute to society and ability to work along side the smart and intelligent machines of tomorrow, cocreated by the joint efforts of both the AI and human mind. The path from Degrees to Destinies is actually the Path from Knowledge to Wisdom, from Qualification to Capability and from Personal Success to National Development.”

On 15 July each year, World Youth Skills Day provides us with an important question to consider: Are we providing our young people just for jobs, or are we preparing them for life? In the case of India, the youth population is one of the highest in the world. The youth of the nation is a driving force towards the vision of Viksit Bharat 2047. They will be the teachers, engineers, doctors, entrepreneurs, researchers, administrators, innovators and leaders of tomorrow. The success of the nation will be measured by their success.

While there has been great progress towards access and opportunity in HE, there remains a serious challenge. Maybe lots of students leaving universities and even colleges with academic knowledge do not have lots of life skills, which are needed to deal with the complexities of the world these days. Today's employers are also seeking technical skills. They're looking for individuals who can communicate effectively, work in a team, solve problems, think critically, adapt to change and confidently lead the team. While a university degree may offer an entry, life skills will offer a way in and a way through and open up the opportunities out there.

The Gap We Cannot Ignore

In India, millions of students graduate every year from colleges and universities. However, several industry groups like CII and NASSCOM have pointed out that many of these students lack communication skills, problem-solving ability and flexibility to work in industry, skills which are highly valued by the industry. As all teachers do in the shadows, the report 'India Skills Report 2023' said that knowledge of technical skills is not enough. Employers desire employees who can work in an interdisciplinary

manner, can tolerate uncertainty, can speak up and communicate effectively, and can make good decisions in stressful situations – and that is not the product of an exam system.

Meanwhile, more and more young people are experiencing a sense of stress, anxiety and uncertainty regarding their futures. New challenges have arisen due to academic competition, the expectations of society and the quick turnaround in careers. Pupils achieve well in tests, but are not confident, emotionally resilient and good at decision-making. Therefore, the significance of education cannot be limited to the marks which can be achieved by the learners. It should help them become confident, good, and skilled leaders who live effective, useful lives.

Why Life Skills Matter:

Life skills are strategies and techniques which enable individuals to cope with everyday situations and take informed decisions in life. These are communication, critical thinking, teamwork, emotional intelligence, empathy, resilience and problem-solving.

According to the World Health Organisation (WHO), Life Skills are key skills that help people cope with the demands and challenges of life. In the same vein, India's National Education Policy (NEP) 2020 has laid a strong focus on 'whole child education' – experiential, values-based and job/life oriented.

These skills are NOT add-on education skills; they are skills that are critical to learning. They help to build student confidence and develop student character as a good citizen and successful professional. What is lacking is the process of how to link these skills into the

From Degrees to Destinies:

The Journey of Life Skills



Figure 1: From Degrees to Destinies—
The Journey of Life Skills

classroom, campus and student development activities at post-secondary institutions.

All the Life Skills are based on Character. Life Skills enable us to communicate, lead, problem solve and make decisions, and character enables us to do these things in the right way. He or she might be a great communicator, but if he or she lacks honesty, empathy and respect, he or she won't be able to build trust and positive relationships with others. Equally, when the leadership is lacking integrity, it can mislead people. Ethical stuff in the curriculum isn't something we can do as an add-on; it is the backbone of the curriculum.

Learning Beyond the Classroom

There are already several institutions in India that are demonstrating how life skills can be developed through experiential learning. Students have opportunities to learn through real-life situations through community outreach programmes, rural immersion projects, Internships, Industry visits, social engagement programmes and service learning projects. Through contacts with communities and

involvement in social initiatives and projects, students develop community spirit, leadership, teamwork and knowledge of society. These experiences impart knowledge that can be acquired only in the classroom sometimes.

Life skills can be gained beyond lectures. They are constructed as a result of engagement, reflection, practice and experience.

When Learning Becomes Real

The 5-day industry-oriented capacity-building programme involved visiting some of the leading industries by the faculty & students. The technical aspects of the job were taught to the participants, but most importantly, how to work together, communicate, problem solve and interact with professionals in the field and how to experience real-world scenarios. Many students reported that these experiences helped them to better understand workplace and employer expectations, compared to classroom discussions.

An important message to reiterate in the programme is that life skills are not merely something that can be acquired by lectures alone, but through experience and reflection, and by engaging with the real world. They thrive as students progress beyond the classroom, real issues are faced, and they learn to deal with people, ideas and situations.

The Digital World and the Need for Human Skills

Technology, artificial intelligence and digital connectivity are the hallmarks of our world. These developments can be of great benefit but come with new challenges. The youth of the day is being overrun with information, social media and emerging technologies. Digital skills are valued, and pupils need to use digital technology responsibly and thoughtfully.

A world filled with machines and more and more tasks are automated, we begin to feel the absence of human qualities of empathy, ethical thinking, compassionate judgement and emotional intelligence that are solely human attributes. It is this gap that we need to carefully bridge by creating an environment of coworking of intelligent machines and their human coworkers of conscience and compassion to make the workplace more blissful and a happy and productive engagement of people of mind and conscience.

Life Skills, Employability and Entrepreneurship

The future work environment will be much different than the present work environment. Technologies are disrupting industries and changing the type of opportunities and jobs available. Employers are looking for adaptable, communication, collaboration and problem-solving skills. They seek those who are willing to constantly learn and adjust to situations. In the World Economic Forum (WEF) report – Future of Jobs, these skills are listed as necessary in the future: Analytical thinking, resilience, flexibility, leadership, creativity and lifelong learning. It is these skills that must be developed proactively by higher education institutions for India to realise the dream of Viksit Bharat 2047.

For India, youngsters with a mind to innovate and are ready to make opportunities are the need of the hour. Entrepreneurship is not just about businesses; it is about problems and solutions to be developed and value added to society. Thus, it is imperative that the universities facilitate innovation, creativity, and entrepreneurial thinking that give the students scope to explore ideas and take initiatives and confidence in their skills.

In addition to being jobseekers, India will need job creators, innovators, and change-makers; those who can meaningfully contribute towards the economic growth and social development of the nation to make India a Viksit Bharat 2047.

Universities as Partners in Nation Building

There's more to a university than degrees. They have an important role in the development of responsible citizens, and they facilitate social development. To make learning relevant to community needs, community engagement projects, environmental projects, health awareness projects, skill development projects, and outreach activities are developed. These experiences promote social responsibility, leadership, and empathy.

National Education Policy 2020 emphasises all-round and experiential learning. It inspires institutions to design learning environments which build the head, heart and hands in

harmony. Placements, rankings or publications should not be the only measures of the success of a university. It should also be apparent in the contribution that it makes in communities and society.

A Call to Action

This World Youth Skills Day 2026 is a clear message for HEIs. We need a paradigm shift in our thinking about education in a more comprehensive way. Fostering life skills, values, leadership attributes and purpose are key outputs that universities need to provide to their students. As educators, faculty members should be more than a teacher, rather a mentor who can foster confidence, curiosity and a passion for lifelong learning.

Practical experiences, in addition to the theoretical knowledge, should be integrated into the curricula. Improvements should be taken into account in assessment systems, such as improvements in character, communication and problem-solving skills and exam performance. Most importantly, we should bear in mind that education is not just for jobs. It's about readying them for their lives.

Conclusion

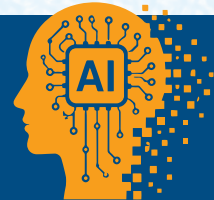
Infrastructure is not the only way to build Viksit Bharat 2047. A prosperous and a developed nation will be built by capable, compassionate and responsible citizens, who will have the knowledge, skills and values to contribute to society and ability to work along side the smart and intelligent machines of tomorrow, cocreated by the joint efforts of both the AI and human mind. The path from Degrees to Destinies is actually the Path from Knowledge to Wisdom, from Qualification to Capability and from Personal Success to National Development.

In achieving the dream of making India a developed nation, our universities have to play a crucial role to make our youngsters more than just degree holders. They need to be professional, ethical, thoughtful and caring citizens. It is not a fairy tale to speak about embedding life skills and character development in the core of higher education. It is the most feasible and attainable investment that India can have in future.

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AI Revolution: Adapt Today or Become Obsolete Tomorrow

Dr. Mahavir Singh



“AI will not replace human intelligence; it will amplify the intelligence of those who learn to use it. In the age of AI, the greatest risk is not automation—it is refusing to adapt.”

Human civilization has witnessed several transformative revolutions—from the Agricultural Revolution to the Industrial Revolution, followed by the Information Technology Revolution. Today, we stand at the threshold of another historic transformation: the Artificial Intelligence (AI) Revolution.

Unlike previous technological shifts that primarily automated physical labor, AI is now automating cognitive tasks, decision-making processes, data analysis, content creation, software development, scientific research, healthcare diagnostics, financial planning, and even creative work. AI is no longer confined to computer science laboratories; it has become a multidisciplinary force influencing virtually every profession and every sector of society.

Just as a delicious dish often feels incomplete without the right blend of ingredients, modern work increasingly feels incomplete without the intelligent use of AI. Whether one is a scientist, engineer, doctor, teacher, researcher, entrepreneur, architect, lawyer, or policymaker, AI has rapidly become an indispensable tool for productivity, innovation, and competitiveness.

AI: The New Electricity of the Digital Age

Many technology leaders describe AI as the “new electricity” because of its ability to transform every industry. According to the World Economic Forum, AI and automation are expected to create millions of new opportunities while simultaneously transforming existing jobs. Similarly, studies by leading consulting firms estimate that AI could contribute trillions of dollars annually to the global economy over the coming decade.

The significance of AI today is comparable to the significance of computers and the internet in the 1990s. Those who embraced digital technologies early gained tremendous

advantages. Those who resisted struggled to remain relevant. The same lesson applies today.

The Multidisciplinary Nature of AI

Artificial Intelligence is no longer a standalone technology. It is increasingly integrated with:

- Healthcare and medical diagnostics
- Engineering and manufacturing
- Education and personalized learning
- Agriculture and Food Security
- Environmental Sustainability
- Finance and Banking
- Transportation and logistics
- Scientific Research and Innovation
- Urban Planning and Smart Cities
- National Security and Defense

AI is becoming the common thread connecting diverse disciplines and accelerating innovation across sectors. Future professional will not simply be an engineer, doctor, scientist, teacher, or manager. They will be an engineer-plus-AI, doctor-plus-AI, scientist-plus-AI, teacher-plus-AI, and entrepreneur-plus-AI.

The Challenge: Job Displacement and Workforce Transformation

Alongside its tremendous opportunities, AI also presents significant challenges. Many organizations across the world are already restructuring operations as AI systems increasingly perform tasks that previously required human intervention. Routine activities such as:

- Data processing
- Customer support
- Content generation

- Basic programming
- Administrative functions
- Documentation and reporting

are being automated at unprecedented speed.

This, however, does not necessarily mean that jobs will disappear entirely, but it does mean that job roles will change dramatically. History teaches us that technological revolutions eliminate some jobs while creating entirely new categories of employment. The challenge is that the transition often occurs faster than workforce adaptation. Perhaps the most important implication of AI is its impact on education. As such “Education Must Change”.

Many educational systems continue to emphasize memorization and examination-based learning. However, in an era where AI can instantly retrieve information and generate content, merely possessing knowledge is no longer sufficient.

Future education must prioritize:

- Critical thinking
- Creativity and innovation
- Problem-solving abilities
- Emotional intelligence
- Ethical reasoning
- Interdisciplinary learning
- AI literacy and digital competence

The objective should no longer be to compete with machines in routine tasks but to excel in uniquely human capabilities.

The Human Advantage

Despite its remarkable capabilities, AI still lacks several essential human attributes:

- Wisdom
- Empathy
- Moral judgment

- Creativity rooted in lived experience
- Ethical responsibility
- Human values and compassion

The future will belong not to humans competing against AI but to humans working intelligently alongside AI. The most successful professionals will be those who combine technological proficiency with human-centered leadership, creativity, and ethical decision-making.

A Call for Continuous Learning

The age of lifelong employment is gradually giving way to the age of lifelong learning. Skills acquired today may become outdated within a few years. Therefore, continuous reskilling and upskilling are no longer optional, they have become essential.

As such the Governments, universities, industries, and individuals must collectively invest in:

- Digital literacy
- AI education
- Professional reskilling programs
- Innovation ecosystems
- Entrepreneurship development

Those who embrace change will lead the future. Those who resist change may struggle to keep pace.

Conclusion: The Choice Before Us

Artificial Intelligence is not merely another technological tool; it represents a fundamental shift in how humanity works, learns, creates, and innovates. The choice before every individual, institution, and nation is clear:

“Adapt, innovate, and evolve—or risk becoming irrelevant in an AI-driven world.”

The future will not be determined by those who fear AI, but by those who learn to harness its power responsibly, ethically, and creatively.

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Innovation and Entrepreneurship in Solar Power for Rural Areas of World

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I. Background

The presence of solar energy at any location in rural areas, villages, and farms makes its use attractive and is consistent with the world thrust for the improving environmental quality. Indeed, there are multiple examples of such use in the history of World. Most prominent of these are the drying of foods for preservation and assured availability during non-crop periods of the year, the drying of garments/clothes, and therapeutic protocols for human and animal health. The photoelectric effect, proposed by Albert Einstein in 1905 for which he won the Nobel Prize in 1921, opened a new universe for the applications of Solar light. The evolution of the modern Solar cell can be traced back to PN junction semiconductor development research of 1940s. The technology and methodology of modern Solar panels encompass the research of several decades, multiple laboratories, and several innovative researchers. The important lesson to note is that innovative technologies with global impacts are developed over time, at many research facilities, and by many researchers. We now have reliable Solar panels that can be used in rural areas, villages, and farms. We should note that these panels have limitations in several performance areas. The alleviation of these limitations is the focus of current research endeavors and will continue in the future.



The examples of technologies that are used in rural areas, villages, and farms include mobile phones, light, Laptops, produce preservation, home appliances, farm implements, vehicles for human, animal, and crop transport. The main sources of energy for these are electricity, gas, and petroleum. The burning of wood and other materials for multiple uses continues. The environmental effects, cost, and reliability for these energy sources are a source of concern throughout the world. On the other hand,

technologies for the direct and indirect uses of solar energy have progressed sufficiently to make this form of energy practical. The intelligent and innovative uses of solar energy will render cost effective, reliable, and environment friendly solutions for global use.

II. The Technological Challenges

Many approaches to providing energy to rural areas have resulted in diverse power utilization and in changing the mode of living of farm communities across the globe. The main challenge we see for the solar power utilization is to maintain the values and culture of the farm communities while providing solar based technology to exponentially enhance the quality of life of the inhabitants. This requires a deliberate understanding of the needs of rural/village/farm inhabitants and innovative approaches to implementing and integrating solar power for their lifestyle. Rural/village/farm inhabitants tend to be very cost conscientious and most often do not have the monetary resources needed for high-tech solutions. They tend to do mental trade-offs daily to economize and use their resources most effectively. Borrowing is not a welcome practice in these communities. In view of this, any solar technological solution must be cost-effective and highly reliable.

Implements, devices, and appliances for rural/village/farm applications must stand rough use by people who are not technologically savvy. For this reason, technology for these applications must be rugged, reliable, and easy to use and repair. The ease of maintenance is essential. Furthermore, costs associated with repair and maintenance should be minimal. One approach that can be used for such attributes is to have modular design so that a non-working or failing part can be changed. There should also be a provision made in hardware for easy upgrades and performance enhancements.

Weather changes have dramatic effect on the amount of solar energy that can be harvested for rural area/village/farm applications. For this

reason, technological approaches should work in cloudy, rainy, and winter weather because the work continues in all seasons.

III. Potential Technology Needs

The rural area/village/farm solar power needs have not been adequately researched and are evolving. However, these applications should include direct utilization of light, direct utilization of heat, and transfer of solar energy into electric power for hardware power utilization.

The author suggests the following possible needs based on his observations and experience:

- **Solar Power Well**

The concept of Solar Power Well (SoPoW) is like the village community water reservoir/well. In this case, the solar energy is harvested and stored and inhabitants can charge devices or energy storage systems (for example batteries) for a fee. The installation of the SoPoW can be done through a village cooperative arrangement so that it can be made accessible to inhabitants at a lower cost per watt.

- **Solar Powered Centralized Food Preservation Facility**

Farm products degrade in normal climatic conditions. Low temperatures and humidity allow these products to extend their usable life. Storage with compartmented design can be built in rural areas and their environment regulated with solar energy technology. These storages can be built through village cooperatives and then rented to farmers for their use. Food preservation and perishable items will greatly help to satisfy world growing demand.

- **Solar Powered Water Wells**

In a typical rural area/village/farm, the communities have water (storage) wells drawing water from underground. They also have water wells for irrigating fields. Most of these are operated manually and those that operate on electric power are limited by the availability of such power. The power availability for use by inhabitants is extremely limited. Solar powered water wells (storage) will undoubtedly increase crop yield and better the quality of life of the inhabitants.

- **Solar lighted Streets/Corners/Farm ways**

Solar lights are very commonly used in many places to provide safety and light needed to enable an individual to accomplish tasks/jobs when there is no sunlight. However, they have rarely been used in rural areas/villages/farms.

- **Solar Powered Rural Homes/Huts**

The technologies to be used in home/hut include lights, phones, refrigerators, food cookers, heaters, television and other electronic devices, air/water coolers, water wells, and fans.

- **Solar Powered (Mobile) Tools/Implements**

Tools are essential for farmers. From digging to harvesting the crops, several implements / tools are needed. Many of these are manually operated presently to save energy use. Solar powered farming will realize a great leap forward in increased productivity and quality of life of the inhabitants.

- **Solar Power Booster for Mobile Communications**

Solar Power is directly tapped at each transponder location and converted into RF energy which contains the signals that are trafficking through the transponder. This RF converted solar power can be used to complement/supplement the power that is available through the traditional power grid. Thus, each ground transponder will be equipped with solar panels and conversion electronics

- **Solar Powered EVs**

For fast transportation of materials, crops, animals, and humans, rural areas now depend on vehicles that run on gas/patrol. These vehicles could be designed to run on solar power.



- **Solar Powered Waste Management**

Farms and farm homes produce waste which largely pollutes land, water, and air thereby becoming a health hazard, in addition to being an eye sore. Solar powered compressors or

waste conversion to useful products would benefit immensely the rural communities.

IV. Example of Innovative Solar Power Produce Preservation System (ISP3S)

The ISP3S system was designed, fabricated, and tested at R. D. Engineering College which is affiliated with the Dr. A. P. J. Abdul Kalam Technical University (AKTU). It was recognized and given 'Award of Excellence' by



AKTU Vice chancellor in 2023. The technical aspects of this system are described in this section of the paper. The motivation for developing the system came from reports such as News Channel 18 saying, "40% of India's Food Ends Up in the Bin. Checking Food Waste Can Solve Most of India's Problems." *

ISP3S uses Adiabatic Cooling. It is evaporative cooling that works on the principle of water evaporation through which the air is cooled down to a lower temperature. It is a cooling technique that uses water as its refrigerant.

In ISP3S, hot outside air is forced through wet 'grass pads' by motor-driven fans. The cooling pads are kept moistened by water dripping from top down. The water to the top of the pad is delivered by a pump continuously. The cooled down air is then blown into inside chamber used as a storage for perishable produce, fruit, food, and perishable items. The cool air has some humidity which is effective in preserving produce items. Items that may be harmed by moisture are kept in plastic sacks.

V. Concluding Remarks

Solar energy is revolutionary as it can be transported from one place to another and at one time to another. Innovations, inventions, and entrepreneurship are needed for harnessing the potential of solar energy for the benefit of rural areas, villages, and farms globally. There should be adequate emphasis on developing efficient, cost-effective, long-life, and low maintenance systems. Research on all aspects of solar energy including science, technology, engineering, development, economics, and management will engage experts in diverse fields in team environments across the globe. Significant percentage of population lives in rural areas, villages, and farms globally.



The impact of this population on the economy is also significant. There will be substantial positive impact on improving environment and quality of life with the use of solar power.

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