www.thapar.edu

THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed to be University)

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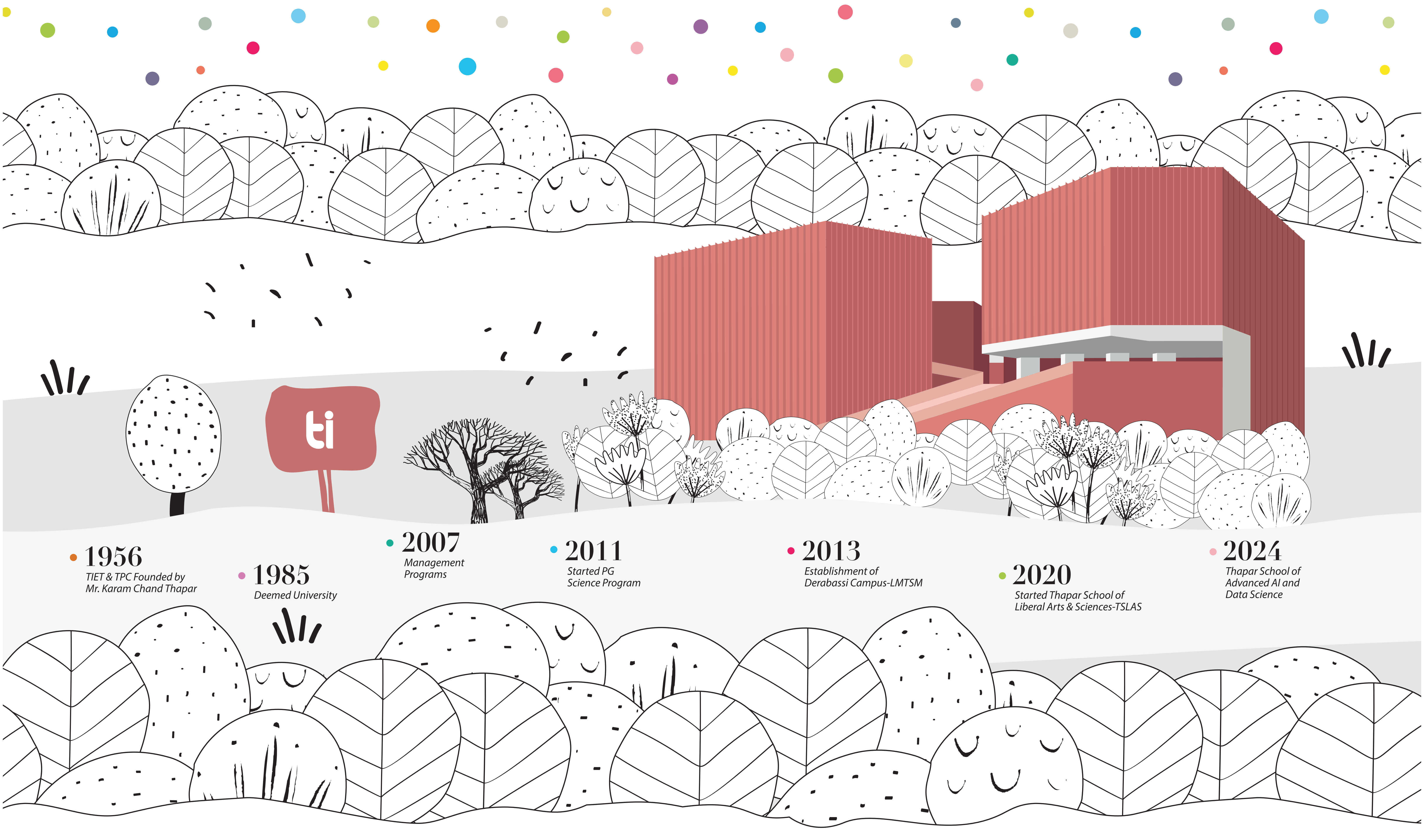
THAPAR INSTITUTE OF
ENGINEERING & TECHNOLOGY

Annual Report
2024-25

Contents.


1956
TIET & TPC Founded by
Mr. Karam Chand Thapar
1985
Deemed University
2007
Management
Programs
2011
Started PG
Science Program
2013
Establishment of
Derabassi Campus-LMTSM
2020
Started Thapar School of
Liberal Arts & Sciences-TSLAS
2024
Thapar School of
Advanced AI and
Data Science

President's Message

This has been a year of transformation-one that reaffirms our commitment to preparing students who will participate and shape the future of our world. Universities have always served as crucibles of discovery, places where young minds are challenged, expanded, and equipped to confront the defining questions of their time - What it means to educate in the 21st century?

This year, TIET established centers of excellence with top global Universities in Data Science & Artificial Intelligence with The University of Queensland, and Energy–Environment–Water with University of New South Wales. This is in addition to four other research centres operational in Food Security & Advanced Manufacturing with Tel Aviv University, Emerging Materials with Virginia Tech, and Quantum Computing with Trinity College Dublin. These partnerships represent more than institutional alliances-they embody our belief that the most pressing challenges of our time demand global perspectives, interdisciplinary approaches, and the free exchange of ideas across borders.

TIET has recently invested and partnered with NVIDIA in setting up the largest data centre by a private University in India. This investment was made to ensure that the next generation of leaders in business, medicine, law, the arts, and beyond-understands the technologies reshaping society and can guide their development with wisdom, foresight, and ethical clarity.

What unites all of these efforts is a simple conviction: that education must prepare students not merely for careers, but for lives of purpose and impact. They must be able to prepare themselves in an environment that challenges and invigorates their learning experience. No doubt the defining question in higher education for the 21st century is the rapid and pervasive advancement of computer science and artificial intelligence in society. How do we educate our young minds, given the challenges posed by the rapid encroachment of technology in every sphere of education and life? What and how do we educate in the 21st century?

My congratulations to all the graduating students - you have pursued knowledge during a time of unprecedented change. You have questioned, explored, and grown. You have done it in an environment that allows you to do so, equipped with some of the best tools and technologies at your disposal. As you leave TIET, you carry with you more than a degree you carry the tools, the insights, and the duty to contribute meaningfully to the world's important conversations.

The future belongs to those who are prepared to shape it with both competence and conscience. We are confident that you have been provided the wherewithal to participate meaningfully in the changing world.

GAUTAM THAPAR

Chancellor's **Message**

The academic year 2024–25 represents a significant milestone in the development of Thapar Institute of Engineering & Technology (TIET) as it advances towards its goals of internationalization, research intensity, and innovation. The institution continues to strengthen its established reputation for academic quality, research contributions, and international collaborations, positioning itself among India's leading institutions and aligning with global benchmarks.

With NAAC rating of A++, AACSB for LMTSM, and within 30 top institutes as per NIRF indicate compliance with international quality benchmarks and our commitment to be one of the most sought after institutions in the country.

Notable developments during this period include the creation of the TIET–University of Queensland Centre of Excellence in Data Science and Artificial Intelligence, and the establishment of the Thapar Chair in Energy, Environment & Water in collaboration with the University of New South Wales.

The partnership with the Indian Air Force represents an important dimension of TIET's contribution to national capacity building. Through the provision of academic programmes and research opportunities to IAF personnel, the institute fulfills its broader mission of supporting professionals in public service.

The launch of VentureLab Thapar under the Thapar Innovate initiative has established a supportive environment for startup incubation and venture development.

With a 3 year Campus Development Plan underway, TIET is shaping itself into a more vibrant, greener, sustainable and healthy lifestyle friendly campus.

With capable leadership, a dedicated faculty, and a talented student body, Thapar Institute is well-positioned to continue its trajectory of development and establish itself as a respected comprehensive university within the region and beyond.

RAJEEV RANJAN VEDERAH

Vice Chancellor's **Message**

Dear Graduates,

Today marks an important turning point in your life. You are stepping into a world changing rapidly through technology, ideas, and values. In such times, what should guide us? I believe the answer lies in empathy and compassion.

I believe the answer begins with empathy and compassion.

Empathy is not sentimentality; it is the courage to care. It is the willingness to understand before judging, to listen before reacting, and to care before concluding. Empathy is the mother of excellence, because only when we care deeply do we give our best. When you empathize with your team, your community, and your nation, you stop settling for adequacy. You begin to ask: "What is the best I can give?" And that is where excellence truly begins.

As you embark on your journey, I urge you to embrace four transformations:

First, champion a cultural renaissance of unity and respect. Dissolve invisible barriers that limit our collective growth. True unity is shared purpose, not uniformity.

Second, ignite a knowledge revolution rooted in innovation. Use knowledge not merely to compete, but to create solutions that improve lives.

Third, reclaim research by choosing quality over quantity. Choose depth over data points, meaning over metrics, impact over imitation. Support work that uplifts people and enriches society.

Fourth, make for India, not just in India. Design solutions for our people, our environment, and our aspirations. Build with empathy for the many, not just the few.

The deeper challenge is to consistently excel even when outcomes aren't critical to our being. Transform brilliance from an event into a habit. Do ordinary things with extraordinary care, even when no one is watching.

Lead with conscience, serve with sincerity, and let compassion guide your strength.

Remember always: Excellence is the highest form of patriotism.

With my warmest wishes on your journey ahead.

PROF. PADMAKUMAR NAIR

About TIET

VISION

At TIET, our vision rests on two pillars:

A deeply meaningful experience for all stakeholders that shapes lives with wisdom, purpose, and compassion.

AND

Socially impactful research that advances knowledge while solving real challenges of industry, society, and humanity.

Together, they embody our commitment to seeking excellence for all.

MISSION

TIET exists to educate and empower students while advancing knowledge through research, so that we serve our society with wisdom, compassion, and a commitment to seek excellence.

Academic Excellence

Integrated OBE Ecosystem

As one of India's pioneering institutions in outcome-based education, we've created an integrated ecosystem where students engage in an education that blends engineering with research, emerging technologies, experiential, liberal arts, and management. Our approach seamlessly weaves together three critical pillars:

- Cutting-edge research conducted by faculty members is directly integrated into classroom learning, ensuring students work with the latest innovations;
- Interdisciplinary education breaks down silos, allowing students to tackle complex real-world problems that require diverse expertise; and
- Entrepreneurship opportunities are embedded throughout the curriculum, with dedicated incubation centers and industry partnerships that help students transform their ideas into viable ventures.

This comprehensive framework ensures our graduates don't just possess technical competencies, but also develop the analytical reasoning, collaborative skills, and entrepreneurial mindset essential for leadership in today's rapidly evolving technology landscape.

Academic Units of the Institute

Our Institute is thoughtfully organized into various academic units that work together to create a comprehensive educational experience. The Departments and Schools form the backbone of our academic programs, delivering undergraduate, postgraduate, and doctoral degrees across diverse engineering and technological, science, management and liberal arts fields. Meanwhile, our specialized Centres serve as dynamic interdisciplinary research hubs that support the entire university community.

Departments

Our eleven core departments represent the breadth of modern engineering and scientific disciplines:

- Biotechnology
- Civil Engineering
- Chemical Engineering
- Chemistry & Biochemistry
- Computer Science & Engineering
- Energy and Environment
- Electrical & Instrumentation Engineering
- Electronics & Communication Engineering
- Mathematics
- Mechanical Engineering
- Physics & Materials Science

Schools

Beyond traditional engineering, we've established three specialized schools:

- Thapar School of Liberal Arts & Sciences
- Humanities & Social Sciences
- LM Thapar School of Management

Centres

- Central Workshop
- Nava Nalanda Central Library
- Centre of Information Technology and Management (CITM)
- Centre for Training & Development (CTD)
- Centre for Industrial Liaison & Placement (CILP)
- Health Centre

Research Centres

- Centre of Excellence in Emerging Materials (CEEMS)
- Centre of Excellence on Advanced Manufacturing (CAM)
- Centre of Excellence in Food Security (CEFS)
- Centre of Excellence Data Science and Artificial Intelligence (COE|DSAI)
- TIFAC CORE in Agro Industrial Biotechnology
- Thapar School of Advanced AI and Data Science in partnership with NVIDIA

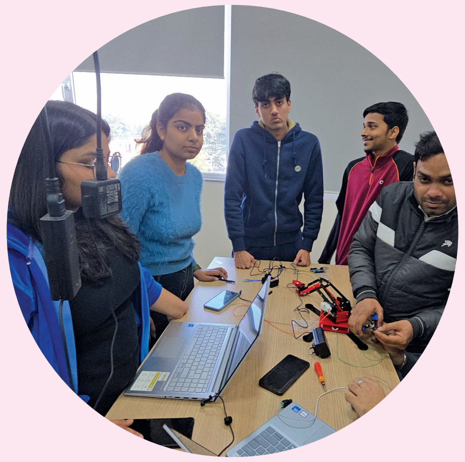
Innovation & Learning Hubs

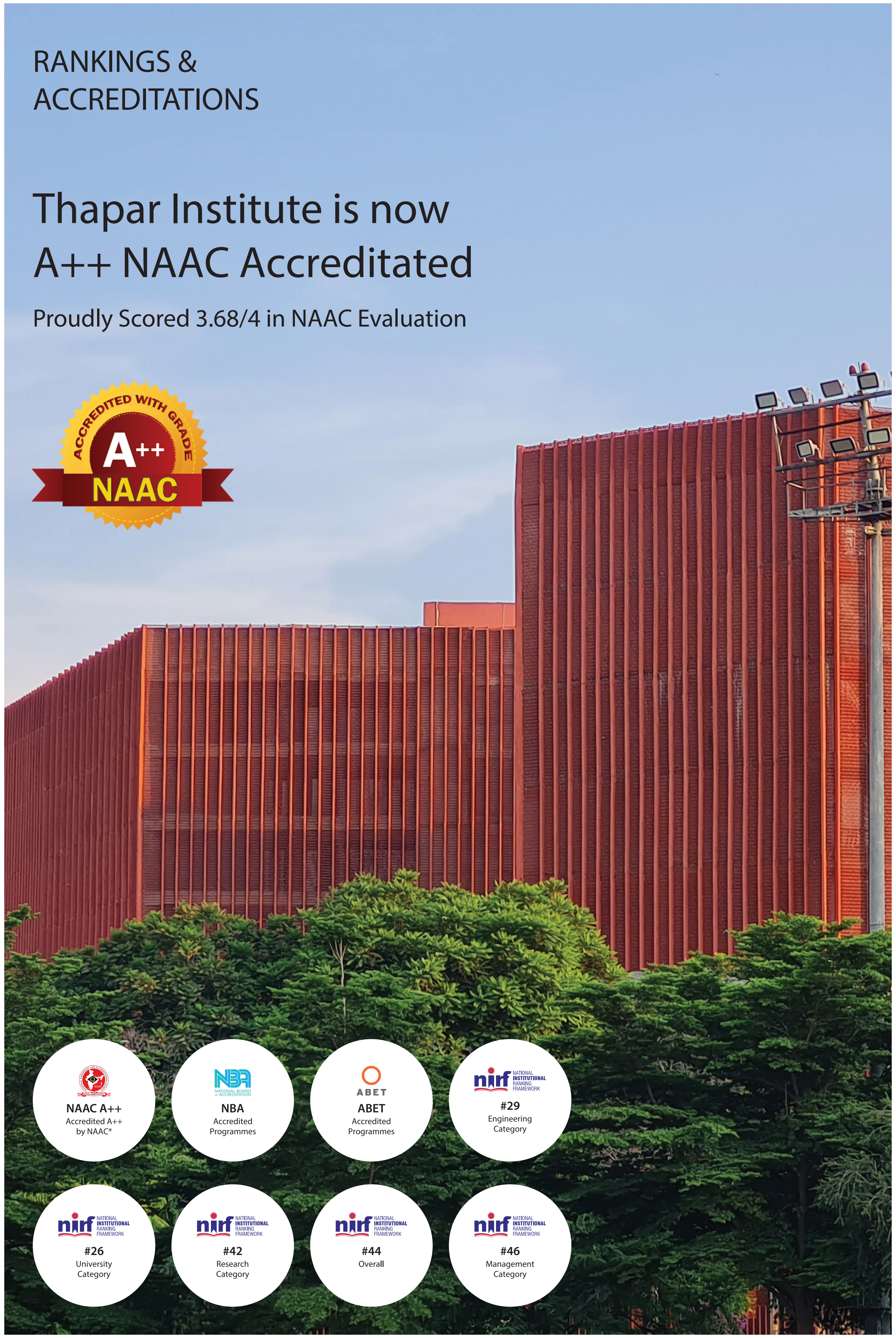
- Experiential Learning Centre (ELC)
- Thapar Learn
- Venture Lab Thapar

The Experiential Learning Center

The Experiential Learning Center (ELC) at Thapar Institute of Engineering and Technology celebrated a remarkable milestone in 2024-25 with the inauguration of its advanced new building, "i-Qube," by Chancellor Dr. Rajeev R. Vederah on 13th September 2024. This purpose-designed facility features cutting-edge maker spaces, dedicated engineering design studios, and dynamic activity zones that fuel student creativity and interdisciplinary collaboration. Throughout the academic year, ELC orchestrated discipline-specific experiential modules for undergraduates spanning seven engineering departments, helping students actively apply theoretical knowledge to real-world problems. Faculty engagement was strengthened through a special Capstone Project workshop and ELC facilitated the creation of experimental pilot setups in robotics, structural design, and advanced mechatronics.

The center hosted the ELC-Summer Internship 2025, engaging over a thousand students in 91 hands-on, mentor-guided projects, spanning topics from automation and water conservation to AI and aerospace applications. Among the notable achievements, the student team Sammpaati won dual international honors at the 42nd Annual Student Design Competition, presenting a hydrogen-powered eVTOL aircraft concept and becoming the first Indian team to receive such recognition. ELC's vibrant community of faculty and students continues to drive research collaboration and innovative pedagogy, distinguishing Thapar Institute as a leader in experiential engineering education and preparing future-ready graduates for industry and societal impact.





RANKINGS &
ACCREDITATIONS

Thapar Institute is now A++ NAAC Accredited

Proudly Scored 3.68/4 in NAAC Evaluation

ACCREDITED WITH GRADE A++ NAAC

NAAC A++
Accredited A++ by NAAC*

NBA
Accredited Programmes

ABET
Accredited Programmes

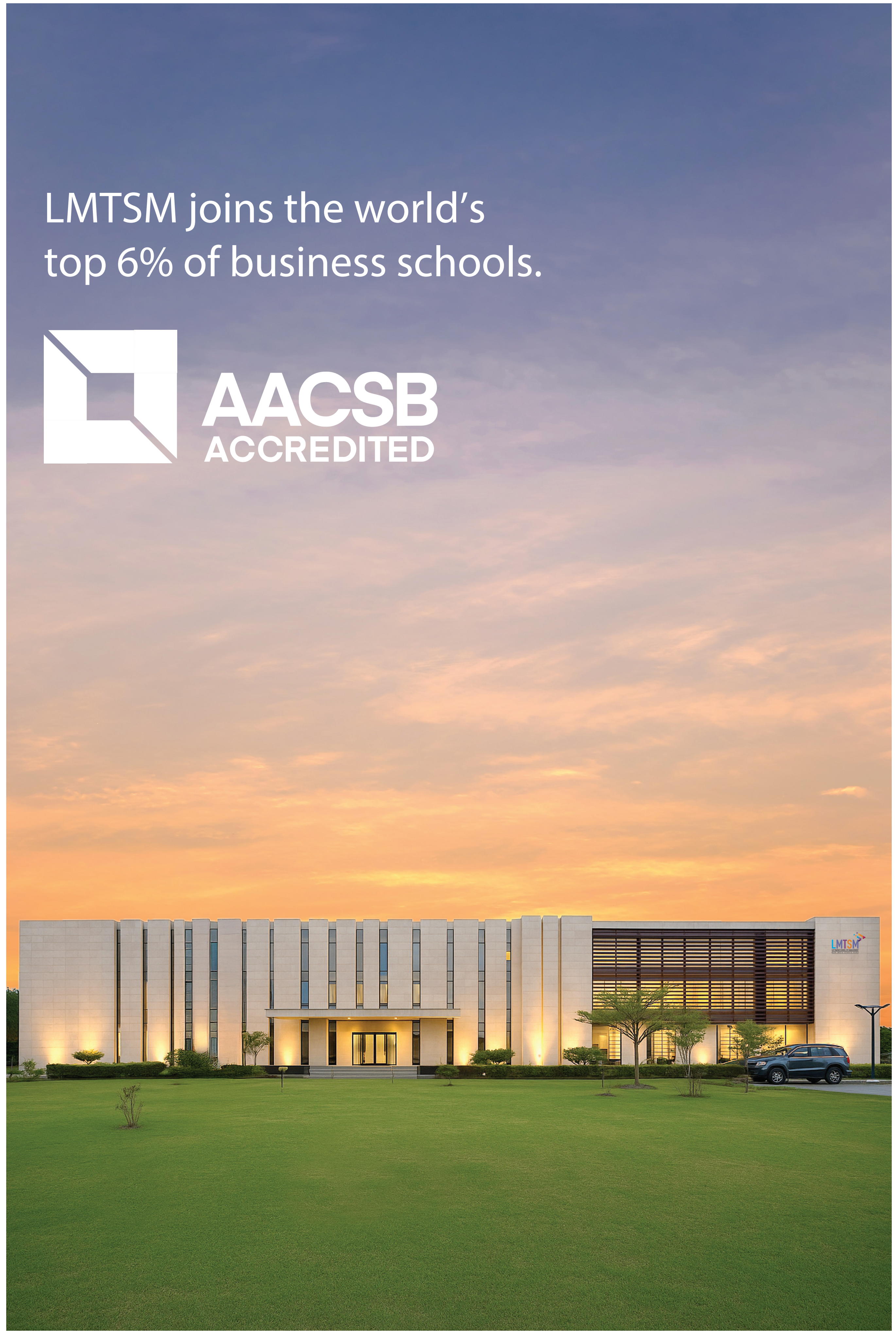
nirf
#29
Engineering Category

nirf
#26
University Category

nirf
#42
Research Category

nirf
#44
Overall

nirf
#46
Management Category



LMTSM joins the world’s top 6% of business schools.

AACSB
ACCREDITED

Year at **a Glance**

The past year has been nothing short of extraordinary for our university, marking a pivotal chapter in our journey toward academic excellence and international recognition. From world-class infrastructure developments to prestigious accreditations and strategic global partnerships, we have strengthened our position as a leading institution committed to innovation, research, and educational excellence.

TIET achieved the highest NAAC accreditation rating of A++ with a score of 3.68, reflecting our commitment to be one of the top most institutions in the country. Our Management School achieved a significant milestone by securing the prestigious AACSB (Association to Advance Collegiate Schools of Business) accreditation. This internationally recognized accreditation places our institution among the top business schools worldwide, validating our commitment to academic rigor, faculty excellence, and continuous improvement. The AACSB accreditation not only enhances our global reputation but also ensures that our students receive an education that meets the highest international standards. Three new programs were accredited by ABET, making all eligible programs at TIET.

We inaugurated two landmark facilities, the Venture Lab Building and the Experiential Building, purpose-built to turn ideas into impact.

Together, they anchor a hands-on ecosystem where students, faculty, and founders prototype solutions, test them with real users, and accelerate them toward the market. The Data Science & Artificial Intelligence Center of Excellence, led by Prof. Tim Miller from University of Queensland, was inaugurated. We also created a state of the art audio/video recording studio.

To enhance research productivity and generate significant scholarly contributions while developing skilled researchers, the institute has implemented three key initiatives: reducing the Ph.D. program fee to 9,000

INR per semester, establishing an annual fellowship of upto 5,40,000 INR for doctoral candidates, and research incentivization for faculty members.

Institute organized Global Academic Leadership Summit India 2025 inviting Vice Chancellors, senior leaders, policymakers and industry experts from across the country for high impact dialog on evolving roles of universities.

We formalized Memorandums of Understanding with several world-renowned institutions, creating a robust network for research and academic collaboration:

1. KTH Royal Institute of Technology, Sweden
2. Aston University, UK
3. University of Indianapolis, USA
4. Ritsumeikan University, Japan

We also formalized an important partnership with the Indian Air Force. Under this agreement, serving personnel receive full tuition coverage for PhD programs and substantial fee reductions for other graduate degrees. This collaboration recognizes the value that experienced military professionals bring to academic research while providing them with advanced educational opportunities.

The visit of the University of Queensland Chancellor and Vice Chancellor marked the official launch of our Joint PhD Program, a groundbreaking initiative that will provide our doctoral students with access to world-class research facilities and international expertise. This collaboration represents a significant step forward in elevating the quality and global recognition of our research programs.

Our partnership with the University of New South Wales has led to the establishment of the Thapar Chair in Energy, Environment & Water. This prestigious chair will drive cutting-edge research in critical areas of sustainability and environmental science, positioning our university at the forefront of solutions for global environmental challenges.

Thapar Institute provides comprehensive financial support to students through various assistance programs. This financial aid allows students to focus on their academic pursuits without economic constraints. Merit-based scholarships motivate students to achieve academic excellence while recognizing exceptional performance. During this academic year, the institute allocated Rs. 5839.27 lakhs in scholarship funding, demonstrating its dedication to enabling students to reach their academic potential.

GMU-AI PROGRAM

Continuing its legacy of offering cutting-edge curriculum, Thapar Institute of Engineering & Technology (TIET) has integrated Artificial Intelligence (AI) courses across all academic programs. This initiative ensures that every student graduates with AI literacy, earning 9–12 credits as micro-credentials in this emerging field. Three modules have been introduced across different semesters:

- AI for Engineers
- Ethics and Risk Mitigation in AI
- Domain Specific Applications for Engineering Graduates

To strengthen this initiative, TIET has signed an MoU with George Mason University (GMU), USA, for faculty training on contemporary AI curricula. Thirty faculty members from diverse disciplines are currently undergoing training conducted by GMU professors-Prof. C. Anthony Pfaff, Prof. Jesse Kirkpatrick, and Prof. Philip Barry-along with Prof. Sri Krishnamurthy from Quant University. The training covers the following modules:

- AI, Ethics, Policy & Society
- Systems Engineering and Artificial Intelligence
- AI Design and Deployment Risks

This collaboration with GMU reinforces TIET's commitment to academic excellence, global partnerships, and preparing students to thrive in an AI-driven future.

UQ-STEP

TIET-UQ Scholarship of Teaching and Education Program (Step)

In July 2025, twelve faculty members from diverse academic departments of our institute were selected to participate in the University of Queensland's prestigious Scholarship of Teaching and Education Program (UQ-STEP). This program, conducted at the University's St Lucia Campus in Brisbane, Australia, was designed to provide a deeply transformative professional learning experience.

Key topics included AI in Education, Universal Design for Learning, Capstone Projects, Active Learning, Problem-Based Learning, Sustaining Teaching Excellence, Design Thinking, and Leadership in Engineering Education. Each of these sessions were designed not only to deepen our understanding of contemporary pedagogical practices but also to challenge us to reimagine how such approaches could be meaningfully integrated within our own institutional contexts.

Additionally, the University of Queensland Library hosted a dedicated workshop titled "Increasing Your Publication Exposure", which emphasized the importance of research visibility, dissemination strategies, and the role of open access platforms in expanding scholarly impact.

GLOBAL ACADEMIC LEADERSHIP SUMMIT- INDIA 2025

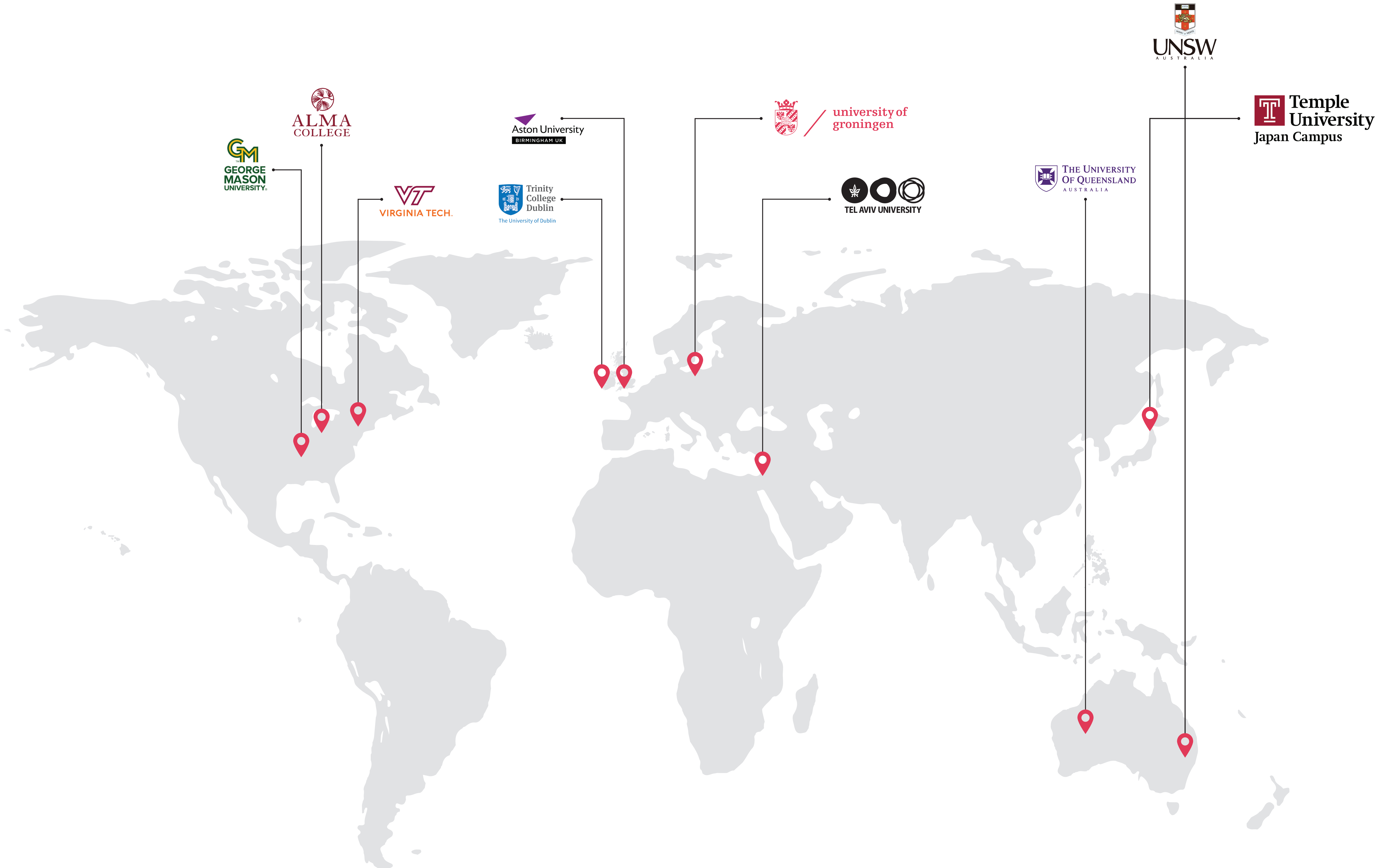
Thapar Institute of Engineering & Technology (TIET) proudly hosted the Global Academic Leadership Summit (GALS) on February 23–24, 2025, in Chandigarh and Patiala. The landmark event served as a premier platform for vice chancellors, academic leaders, policymakers, and industry experts to engage in high-level discussions on the evolving role of universities in shaping future-ready societies.

The summit was graced by distinguished Chief Guests, Dr. Ashwin Fernandes (Executive Director-AMESA, QS Quacquarelli Symonds) and Mr. Vishal Dhupar (Managing Director – Asia South, NVIDIA). Over two days, the deliberations spanned critical themes such as global rankings and accreditations, entrepreneurship versus placements, NEP 2020-driven experiential learning, and embedding sustainability as a core pillar of higher education. Sessions emphasized the need to harmonize global standards with intrinsic academic quality, innovation, and inclusive development.

The conclave also explored the role of technology, artificial intelligence, and research-led pedagogy in transforming education delivery and student outcomes. The event concluded with a valedictory session and a campus tour, showcasing TIET's world-class infrastructure, sustainability initiatives, and innovation hubs.

GALS 2025 reaffirmed TIET's position as a thought leader in higher education and strengthened the collective resolve of academia to build globally connected, socially responsible institutions.

INTERNATIONAL COLLABORATIONS



Research
Excellence

At Thapar Institute, research is more than a pursuit of knowledge-it is the pathway to shaping the future. With advanced laboratories, state-of-the-art infrastructure, and a culture of innovation, we continue to nurture ideas that address the grand challenges of our times. Our projects, supported by government agencies and industry partners, extend beyond academic output to create lasting social, economic, and technological impact.

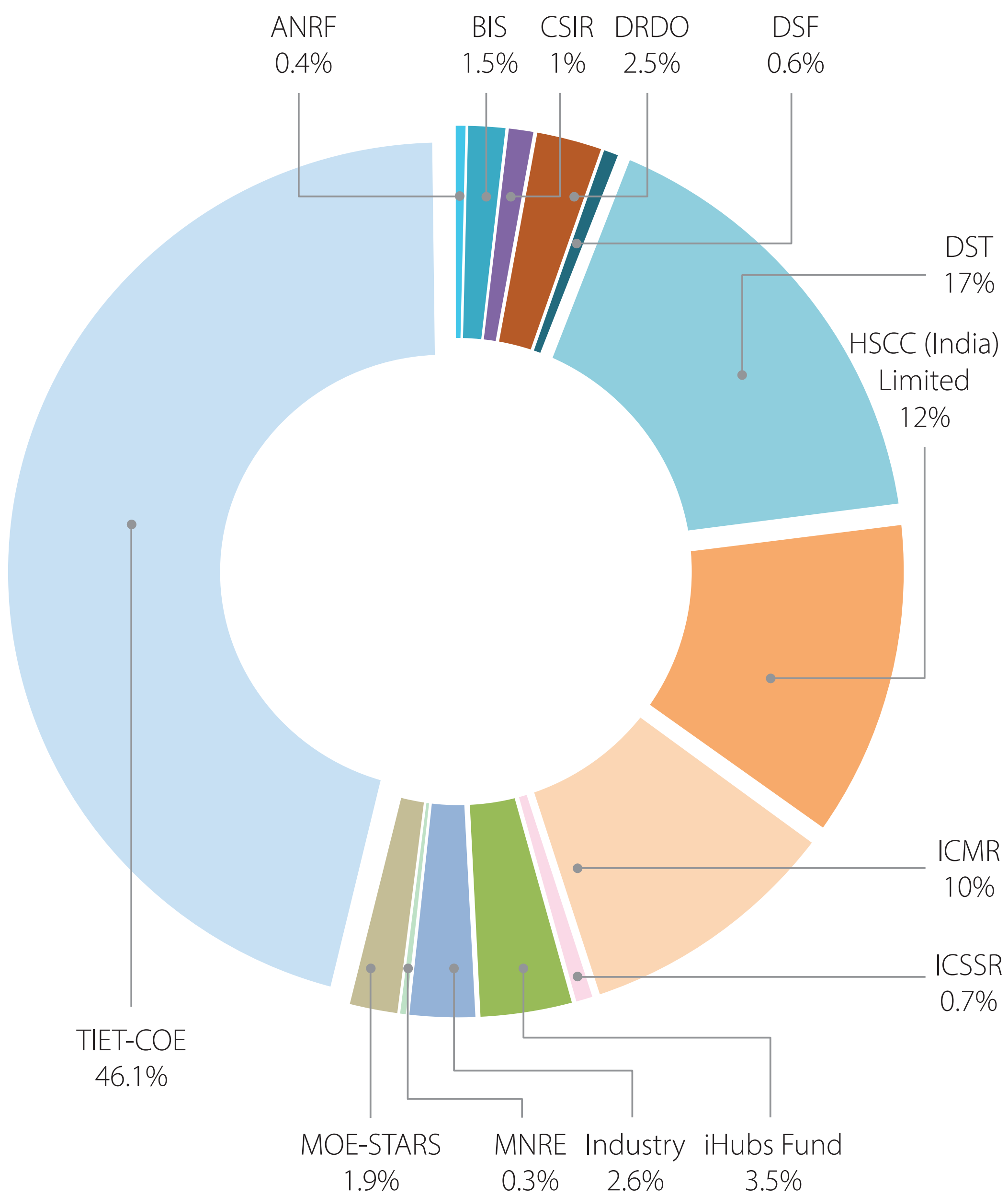
Our growing network of Centres of Excellence reflects this ambition. Building on our long-standing strengths in Emerging Materials, Food Security, Advanced Manufacturing, and Data Science, 2025 marked an exciting milestone with the signing of MOU in partnership with the University of New South Wales for setting up Centre for Energy Environment and water. Built in collaboration with leading global universities, these hubs not only enhance our research capacity but also align our efforts with worldwide priorities in sustainability, digital transformation, and clean technology.

With robust support from national and international funding agencies, our faculty and scholars have achieved notable progress this year. Industry collaborations underscores our position as one of India's premier research-driven institutions. As of September 2025, Thapar Institute has published over 10,300 Web of Science indexed papers and more than 15,200 Scopus indexed papers, with cumulative citations crossing 250,000 (WoS) and 310,000 (Scopus) respectively. Our H-Index has now reached 162 (WoS) and 188 (Scopus), reaffirming our global research footprint.

Currently, more than 150 sponsored research projects are under implementation. During the 2024-25 academic cycle. Among them, three flagship initiatives stand out for their transformative potential: Structural safety for development works (Prof. Shweta Goyal, Department of Civil Engineering), Optimization of Coal and Agro wastes (Prof. S. S. Mallick, Department of Mechanical Engineering), and Elastography for early diagnosis of osteosarcoma (Dr. Vishal Srivastava, Department of Electrical and Instrumentation Engineering).

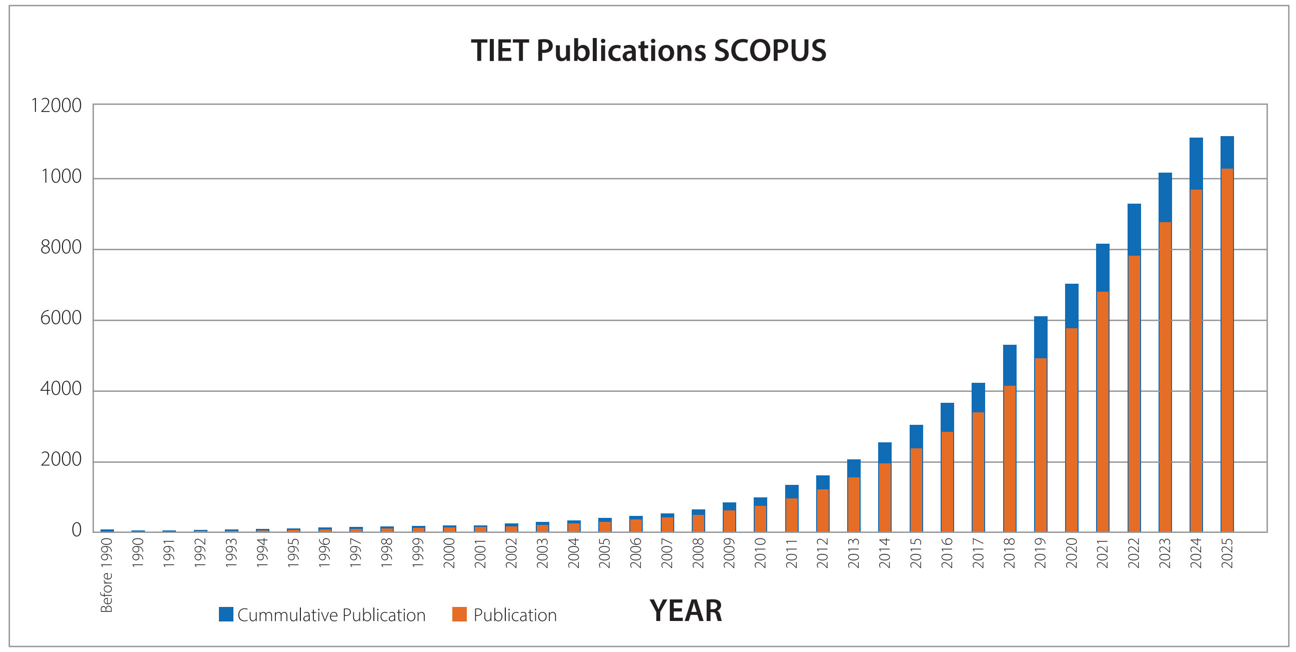
Looking ahead, our vision is to place Thapar Institute among the world's leading universities for sustainability-driven innovation, AI-powered research, and industry-focused problem-solving, fostering curiosity, entrepreneurship, and global collaboration to tackle today's challenges and shape tomorrow's solutions.

RESEARCH FUNDING 2024-25



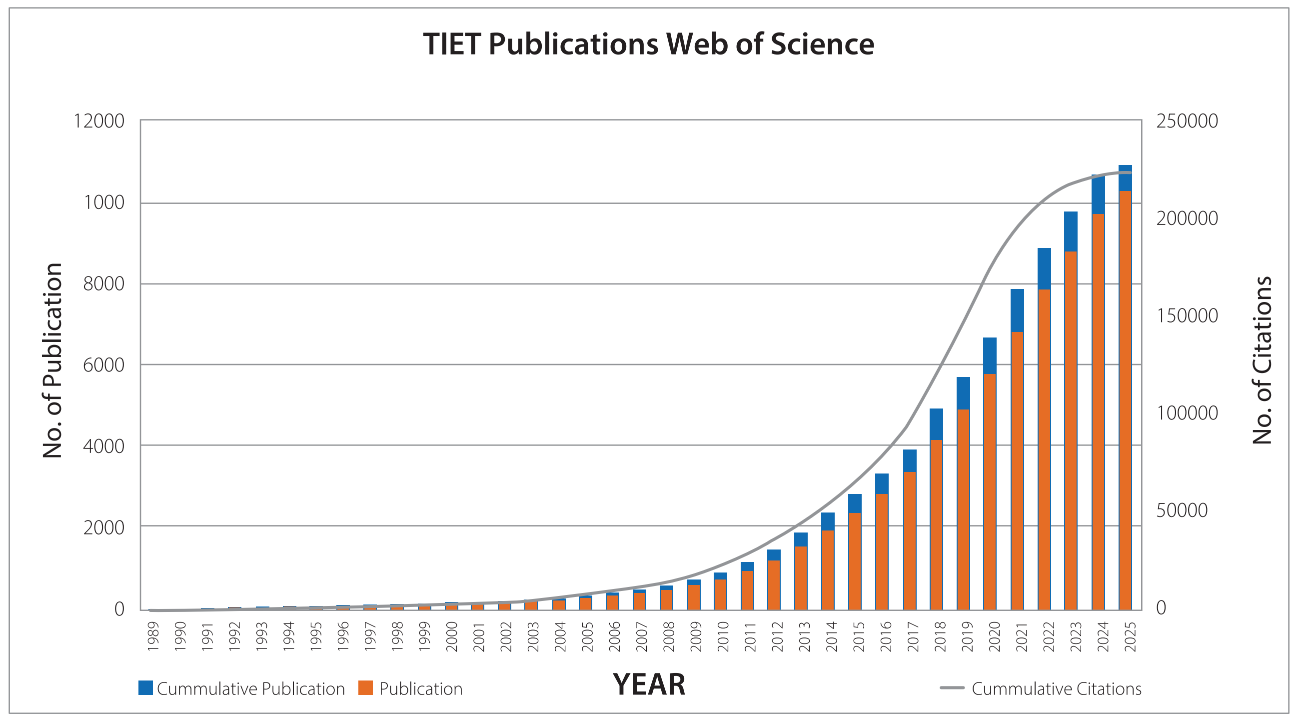
Total Research Funding Rs. 2802.89 Lacs

SCOPUS INDEXED PUBLICATIONS



h-Index	Average Citation	Total Publications	Total Citations
188	20.35	15288	310997

WEB OF SCIENCE INDEXED PUBLICATIONS



H-Index	Average Citation	Total Publications	Total Citations
162	21.82	10328	250487

CENTRE OF EXCELLENCE FOR DATA SCIENCE AND ARTIFICIAL INTELLIGENCE

Introduction

The TIET–UQ Centre of Excellence in Data Science and AI is a cross-disciplinary research initiative jointly established by Thapar Institute of Engineering & Technology (TIET), Patiala, India and the University of Queensland (UQ), Brisbane, Australia.

The Centre announced on 14th February 2025, advances both foundational and applied research in Data Science and Artificial Intelligence, while fostering global knowledge exchange. Through this partnership, we aim to deliver innovative, responsible, and scalable solutions to address complex global challenges.

Vision & Mission

- Foster next-generation AI talent through research-led education and industry partnerships.
- Drive impactful innovations by collaborating with startups, corporates, and government bodies to solve real-world problems.
- Establish TIET and UQ as global leaders in AI and Data Science research.
- Promote responsible AI solutions that enhance human potential and improve quality of life.

Thematic Research Areas

- Sustainable Infrastructure
- Energy & Environment
- Smart Agriculture
- Cyber Security
- Health & Medicine
- Behavioural Science

Research Portfolio (2024–25)

Currently there are 26 ongoing Research Projects in the following six thematic areas:

Total Ongoing Projects:	26
Behavioural Science	1
Cyber Security	3
Energy & Environment	6
Health & Medicine	10
Smart Agriculture	2
Sustainable Infrastructure	4

Faculty both from TIET and UQ is involved as PIs and Co-PIs

TIET	55
UQ	21

Undergraduate Student Interns

TIET	51
Abroad	2

TIET–UQ Joint PhD Programme

A landmark initiative, the Joint PhD Programme between TIET and UQ was launched in August 2025.

- Initial cohort: 5 Computer Science students
- Duration: 3 years at TIET + 1 year at UQ
- Joint supervision by faculty from both institutions
- Future expansion planned to other disciplines

The Inaugural Issue of CoE-DSAI Newsletter was also launched in the event

Flagship Activity: National Hackathon on Restorative Healthcare 2025

The Centre successfully hosted a National Hackathon on Restorative Healthcare at TIET, attracting massive participation from across India.

- Registrations: 600+ teams | Participants: 1,200+
- Online Round (Aug 16–17): 215 teams shortlisted
- Grand Finale (Aug 23–24): 100 teams competed onsite
- Winning Teams: 18

Problem Statements Provided By:

Reut Hospital (India), VR Steps (Israel), Tzora Active Systems (Israel), SilverGenie (India), ProCare (India)

Focus Areas:

Patient experience, physiotherapy innovation, rehabilitation gamification, AI-driven gait analysis.

Top Winners:

- **1st Prize:** Episkope (Karunya Institute of Technology & Sciences), Neurostep (DTU & NSUT), Biomech Titans (TIET)
- **2nd Prize:** Teams from MIT Pune, TIET, Amity University Punjab, JC Bose University
- **3rd Prize:** Teams from The Northcap University, AISSMS Pune, Amity University Punjab, THSTI, Nirma University

Leading Participation From: Delhi NCR, Pune, Punjab, Tamil Nadu, Gujarat, Uttar Pradesh, and NITs across India

MESSAGE FROM PROF. TIM MILLER

TIET-UQ Centre of Excellence in Data Science and AI

Recent advances in artificial intelligence (AI) have been remarkable, but translating these breakthroughs into real-world applications remains a major challenge. Many AI solutions falter when applied to complex, real-world problems, revealing new and interesting research challenges.

Our vision is to establish Thapar Institute of Engineering & Technology (TIET) and the University of Queensland (UQ) as global leaders in AI and data science by producing impactful research that enhances human capabilities and improves quality of life for people in India, Australia, and beyond. We work closely with external partners-including startups, SMEs, non-profits, and government agencies-to ensure our research is grounded in real-world needs.

We focus on applied, cross-disciplinary research that leads to foundational advances with real-world impact. Our projects span the spectrum from immediate practical solutions to long-term scientific discovery. Our applied, cross-disciplinary research approach drives foundational advances by tackling real-world challenges-where practical engagement often reveals new scientific questions.

The centre brings together researchers from TIET and UQ, working across diverse areas such as computer science, human-computer interaction, engineering (e.g. chemical, civil, energy, environmental), behavioural science, agriculture, medicine, physics, mental health, and astronomy.

Our research targets areas where TIET excels and UQ provides

- complementary strengths:
- Health and medicine
- Energy and environment
- Cybersecurity
- Behavioural science
- Sustainable infrastructure
- Smart agriculture

We support our mission through a range of programs:

- Seed funding for applied research projects that have a foundational research challenge
- A joint PhD program, where students spend three years at TIET and one year UQ, earning a jointly awarded degree and building international research experience.
- PhD travel scholarships to enable cross-pollination of ideas, methods, and perspectives between TIET and UQ-fostering not just academic collaboration, but also cultural and institutional understanding that strengthens long-term partnerships.
- Industry-collaborative research projects-these will begin soon, so reach out now!

Over the next year, we will launch new initiatives to expand the Centre of Excellence. These include starting new collaborations, initiating larger flagship projects, and working with the Thapar Venture Lab to support our researchers in translating their work into real-world innovation. We will aim to strengthen pathways from research to impact through startups, patents, and other forms of commercialisation.

Through these initiatives, we aim to foster the next generation of talent in AI and data science, ensuring a sustained pipeline that extends beyond the boundaries of any single institution.

CENTRE FOR EXCELLENCE ON FOOD SECURITY

1. Microalgae-Microorganism Consortium

This 2024-2025 project successfully implemented a microalgae- bacterial consortium for domestic wastewater treatment at the Thapar Model retrofitted pond in Jhambali Khas village.

- The consortium showed efficient bioremediation meeting regulatory standards.
- Treated wastewater irrigated 0.52 acres of paddy and wheat crops via drip irrigation, reducing water consumption by 36-42% and chemical fertilizer use by 40-50%.
- This eco-friendly approach operates without energy investment and supports biofuel production.

TIET also secured $75,000 from Jameel Poverty Action Lab (J-PAL) for scaling decentralized treatment through HDPE-lined mini-ponds, reducing construction cost and maintaining water quality within F-Coliform norms.

A proposed cash incentive scheme aims to motivate village councils in maintaining water quality and system operation.

2. Groundwater Sustainability through Incentive-Based Approaches

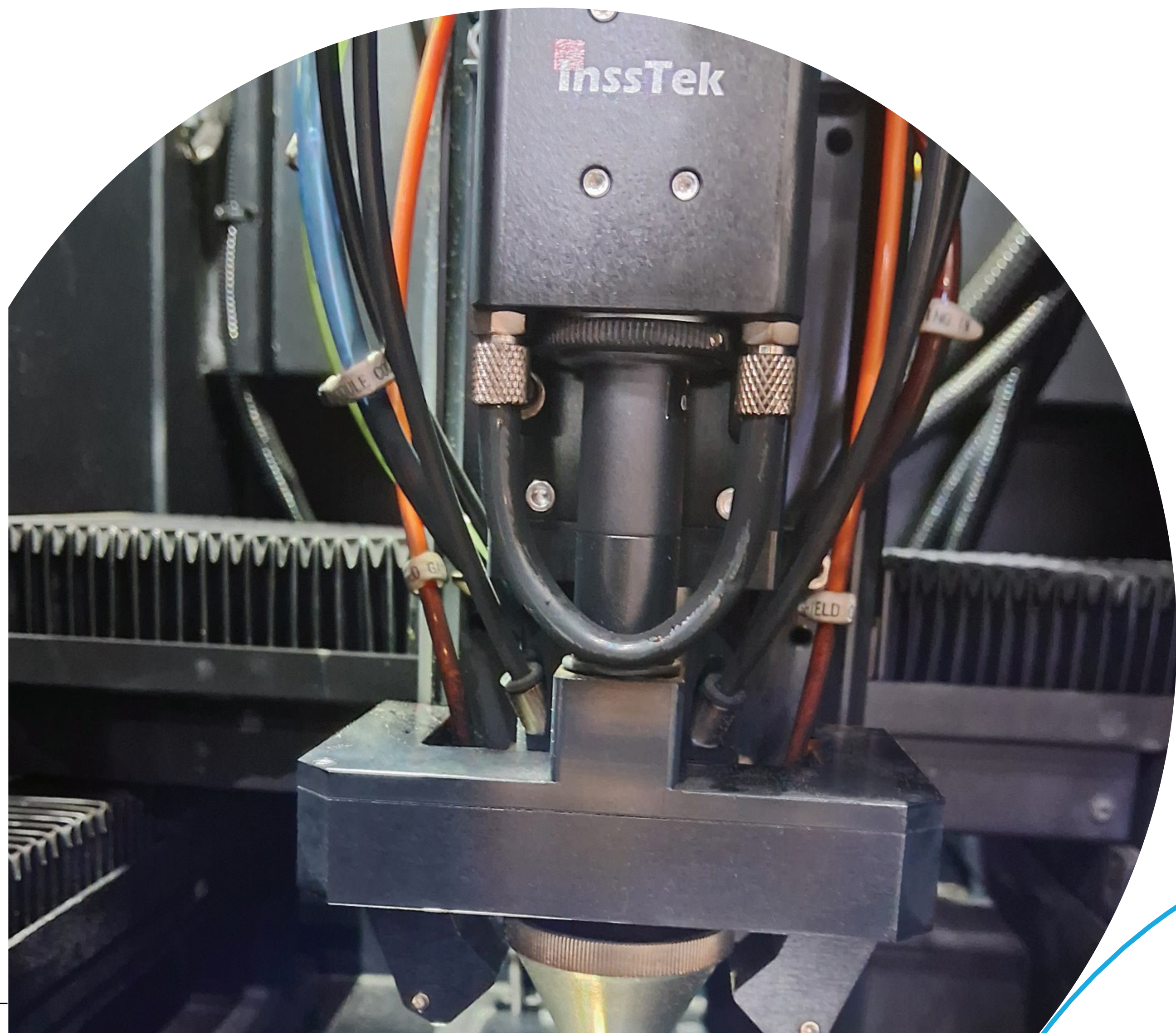
This project received a £34,270 Small Research Grant from the International Growth Centre (IGC). It addresses groundwater over-extraction for agriculture, a critical challenge in India.

- The project develops innovative empirical strategies and policy interventions to incentivize reduction in groundwater use.
- This collaborative research involves TIET and global partners from Tel Aviv University, the World Bank.
- Expected outcomes include actionable guidance for farmers, policymakers, and stakeholders supporting ecological resilience, agricultural productivity, and food security.

These interdisciplinary projects reinforce TIET's commitment to pioneering sustainable solutions under the Center for Excellence in Food Security, integrating cutting-edge biotechnological advances and socio-economic policy research to improve resource management and food security in India.

CENTRE OF EXCELLENCE ON EMERGING MATERIALS

Advanced Manufacturing including 3D printing has been recognised as one of the technologies having the greatest potential of significant economic impact and disruption by 2025. A Centre of Excellence in Advanced Manufacturing is being setup in the Patiala campus. This centre aspires to become a national leader in advanced manufacturing and allied research areas, and to offer customized solutions to industry. Prof. Noam Eliaz, Professor, and Dean Faculty of Engineering at Tel Aviv University, Israel is leading the centre. In the first phase, a direct energy deposition (DED) based 3D metal printer capable of printing objects of dimensions better than 50 cm in controlled environment is being purchased.



CENTRE OF EXCELLENCE ON ADVANCED MANUFACTURING

The Center of Excellence in Emerging Materials (CEEMS) was established at TIET under a formal agreement signed on May 29, 2019, between Virginia Polytechnic Institute and State University (Virginia Tech), USA, and Thapar Institute of Engineering and Technology (TIET), India. CEEMS was envisioned as a premier research hub dedicated to advancing the science and engineering of next-generation materials.

Research Progress

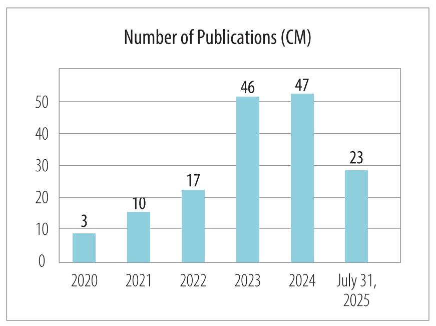
CEEMS continued to expand its research portfolio across five designated thrust areas:

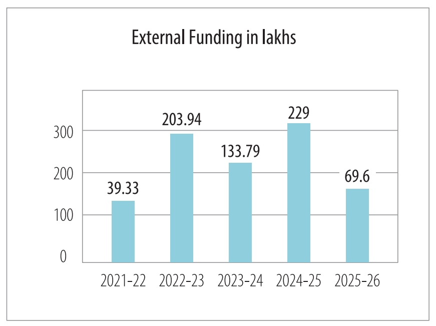
- Cancer Group
- X-Graphene+
- Polymer Nanocomposites
- Sustainable Construction
- Exploratory Research (U2R – Untargeted and Unencumbered Research)

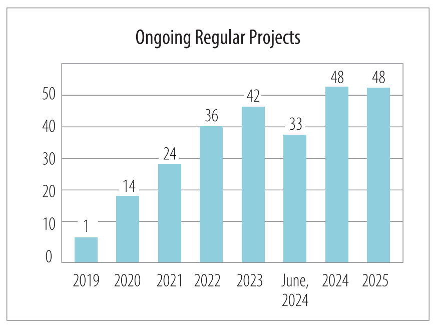
CEEMS continues to make remarkable strides in cutting-edge research, reflected in an impressive portfolio of 146 publications and a cumulative External Project funding of ₹675.66 lakh. These milestones underscore our commitment to advancing innovation and interdisciplinary excellence.

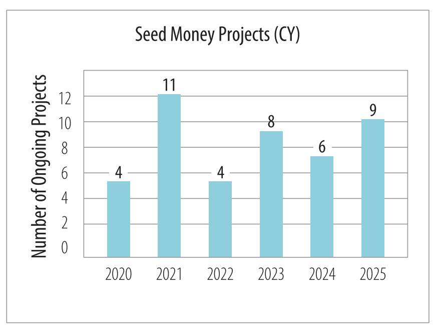
16 new regular projects were funded, bringing the total to 48 ongoing CEEMS projects. Besides these, 9 seed money projects, which are about one-year exploratory grants aimed at validating high-risk, high-reward concepts, were awarded. Promising outcomes from the seed money projects are invited for follow-up proposals for long-term funding (typically 3 years).

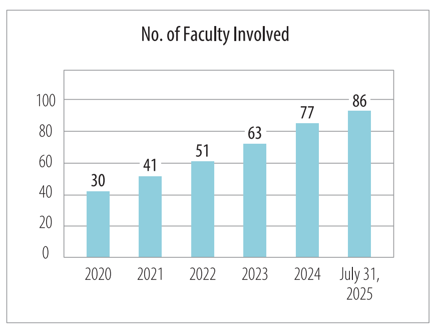
Adding another milestone to CEEMS' journey, a Poster Day event was organized to mark the launch of CEEMS 2.0, continuing the tradition established in 2024. The event showcased vibrant scholarly engagement and innovative research.











CEEMS 2.0 Doctoral Scholar's Day Celebration

On April 18, 2025, we proudly celebrated CEEMS 2.0 Doctoral Scholar's Day at Thapar Institute of Engineering and Technology (TIET), hosted by the CEEMS.

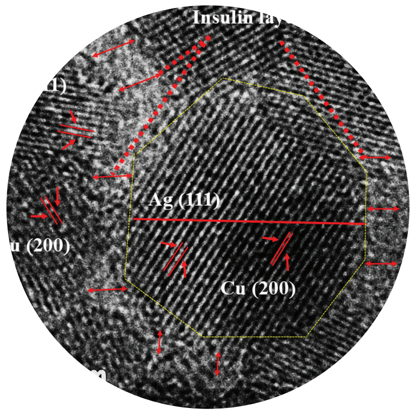
The event commenced with an engaging launch video showcasing the vision and achievements of CEEMS, setting the tone for an inspiring day. This was followed by a motivating address by our esteemed Vice Chancellor, Prof. Padmakumar Nair, who emphasized the importance of innovation and interdisciplinary research.

A highlight of the program was the Best Thesis Award Ceremony, where Dr. Nikhil Sharma was honoured with a cash prize of ₹50,000 for his ground-breaking research. The award was instituted by Chair Professor Roop L. Mahajan and Mrs. Kavita Mahajan, recognizing excellence and originality in doctoral work.

The day concluded with a thought-provoking closing speech by Prof. Mahajan, followed by an engaging Poster Session, wherein scholars showcased their research contributions.

ONGOING RESEARCH

Drug and Biomedical Device Development Laboratory



The Drug and Biomedical Device Development Laboratory, established in 2015 under the Department of Chemistry and Biochemistry at Thapar Institute of Engineering and Technology (TIET), is led by Dr. Diptiman Choudhury. Over the past decade, the laboratory has evolved in driving innovation in drug development, biomedical devices, and translational healthcare technologies, thereby contributing significantly to TIET's mission of "Excellence Together."

The research is organized into two synergistic domains. The first focuses on drug discovery and delivery, addressing major clinical challenges in cancer and metabolic disorders. Contributions include: bacterioboats, a microbiota-dependent oral sustained release system, epigenetic modulation of c-Myc via hesperidin, metal–protein core–shell nanoparticles to suppress diabetic wound inflammation, solid lipid nanocarriers for enhancing the efficacy and safety of therapeutic agents.

The second domain centers on biomedical devices and healthcare technologies designed for unmet clinical needs. Key innovations include: wearable breast cancer detection devices for early diagnosis, an aerosol-free pulmonary suction system for safer intensive care, chemo-free microbiome-based cancer therapeutics, flexible palm-protection devices for reducing occupational injuries. Several of these technologies are at TRL-5 and under clinical validation, highlighting strong translational potential.

The laboratory's impact is reflected in its outputs: over 50 SCI-indexed publications (Science Advances, Small, Oncogene, IJBM), 1,800+ citations, an h-index of 24, 7 book chapters, and 8 patents. Training has been central, with 6 Ph.D.s, 2 Post-Docs, and 24 M.Sc., projects completed. Currently, the lab hosts 6 Ph.D. fellows, 1 research assistant professor, and 1 project trainee.

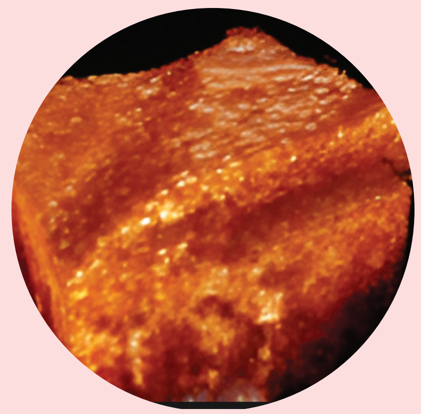
Funding from SERB, ICMR, DST, CSIR, UGC, CEEMS-TIET, DCDS-TIET has sustained and expanded the lab's vision. Collaborations extend nationally and globally, including IIT Ropar, IIT Mandi, IIT Kharagpur, IIT Madras, PGIMER Chandigarh, AIIMS New Delhi, CNCI Kolkata, NIBMG Kalyani, GADVASU Ludhiana, PAU Ludhiana, Virginia Tech (USA), Translational Research Institute (Australia), and Aichi Cancer Center (Japan).

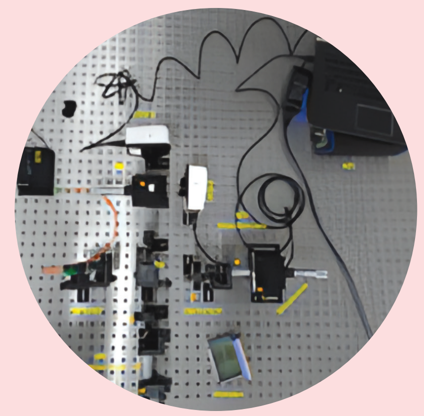
Currently, the laboratory is advancing wearable breast cancer detection devices and novel peptide-based cancer vaccines as its flagship projects, representing TIET's commitment to high-impact, translational innovation.

Through its multidisciplinary work, extensive collaborations, and translational pipeline, the Drug and Biomedical Device Development Laboratory is playing a critical role in realizing TIET's vision of becoming a hub for globally relevant, socially impactful healthcare solutions.

Structural Safety Assessment and Analysis of Strengthening Measures for Redevelopment Works

The project titled "Structural Safety Assessment and Analysis of Strengthening Measures for Redevelopment Works of East Kidwai Nagar, New Delhi", funded by HSCC (INDIA) Limited (sanctioned amount ₹3,17,89,724), is led by Prof. (Dr.) Shweta Goyal. It focuses on assessing the structural condition of the Government of India's East Kidwai Nagar Redevelopment Project executed by NBCC (India). The work involves identifying structural distresses, analyzing their root causes, implementing on-site strengthening measures, & monitoring their effectiveness and service life over time to ensure the long-term safety and reliability of the redevelopment works.





Biophotonics Computational Imaging Lab

Early and accurate disease detection is critical but conventional diagnostics are often slow, labor-intensive, and error-prone. To overcome these challenges, our laboratory at Thapar Institute of Engineering & Technology is creating next-generation AI-powered biomedical instruments that deliver faster, automated, and highly reliable diagnostics for cancer and blood disorders.

Our key innovations include:

Polarization-Sensitive Optical Coherence Tomography (PS-OCT): A deep learning–based imaging system that captures both structural and polarization contrast for more sensitive detection of cancerous tissue, enabling rapid, non-invasive diagnosis without contrast agents.

3D Intelligent Microscope for Blood Screening: An advanced AI-integrated microscope combining optical imaging and 3D visualization for automated blood analysis, enabling early detection of tumors and hematological disorders with minimal manual effort.

Optical Coherence Elastography (OCE) for Osteosarcoma: A high-resolution imaging tool, developed in collaboration with AIIMS New Delhi and Government Medical College, Chandigarh, to assess tissue stiffness for early and accurate identification of malignant bone lesions.

By merging artificial intelligence with cutting-edge optical technologies, our lab is advancing clinical diagnostics to be faster, more accurate, and patient-friendly, shaping the future of personalized and non-invasive healthcare solutions.

MoU with Indian Air Force

Strategic Partnership with the Indian Air Force

In July 2025, Thapar Institute of Engineering & Technology (TIET), Patiala, entered into a landmark Memorandum of Understanding (MoU) with the Indian Air Force (IAF) to strengthen academic collaboration and provide enhanced educational opportunities to serving IAF personnel and their wards.

The MoU was signed at TIET's Patiala campus by Air Vice Marshal Harjit S. Sidana, VSM, Assistant Chief of the Air Staff (Education), and Prof. (Dr.) Padmakumar Nair, Vice Chancellor, TIET. This collaboration underscores TIET's commitment to supporting the Armed Forces' vision of continuous learning and professional development.

Under the agreement, serving IAF officers admitted to full-time Ph.D. programmes will receive a 100% fee concession, while part-time Ph.D. candidates will be extended a 50% concession. In addition. Eligible candidates will also be entitled to scholarships and TA-ships, as applicable to TIET students.

The collaboration also provides for the appointment of nodal officers from both institutions to facilitate seamless admissions, while a Joint Coordination Committee will oversee implementation and monitoring. The MoU will remain in effect for an initial period of three years, beginning with the 2025–26 academic session, and may be extended with mutual agreement.

This strategic partnership highlights TIET's role in nation-building through education, ensuring that defence personnel have access to world-class academic and research opportunities.

VentureLab
Thapar

Thapar Innovate is TIET's flagship initiative to build an excellent entrepreneurial ecosystem for nurturing the entrepreneurial mindset of students and staff. As well as creating awareness of the opportunities of entrepreneurship, build competencies and support innovation-driven startups. Thapar Innovate offers programs for entrepreneurial education, venture creation, funding support and market access. Building on longstanding initiatives like STEP-TIET, and brand new initiatives like the internationally awarded program VentureLab Thapar in the magnificent building. Students drive Clubs like Thapar Venture Club (TVC) and supported by the Institute Innovation Council (IIC). Together this offers a unified ecosystem of incubation, mentorship, research valorisation and funding support recognized as a TOP system in Northern India. By aligning with national startup programs, Thapar Innovate empowers early-stage founders to transform their ideas into scalable and sustainable ventures through VentureLab Thapar.

85+ Startups Incubated

200+ Job Created

45+ Startups Feed Funded

85+ Mentor & Trainer Pool

₹4 Cr Disbursed to Startups

₹10 Cr+ Revenue generated by startups

₹50 Cr+ External funding raised by startups

₹200 Cr+ Valuation of Startups

Startup India Seed Fund

Thapar Innovate is proud to support three startups with total of ₹1.35 Cr under SISF

Startup	Revenue Milestone	VentureLab Investment	VC Firms Invested	Valuation
Nirmaan	5.20 crores	25 Lakhs	7 crores	30 crores
Foxo	30 Lakhs	25 Lakhs	8 crores	25 crores
Project Studio	1.40 crore	35 Lakhs	1 crores	7 crores

Miety TIDE 2.0

Under the MeitY TIDE 2.0 scheme, 10 startups were funded during the year and a total of ₹54 Lakhs was disbursed to support technology-driven innovation and early-stage ventures.

10 Startups Funded

₹54 Lakhs Startups Funded

Startup Punjab

Under the Startup Punjab Seed Support Scheme, seed funding of ₹18 Lakhs was disbursed to 6 startups during the year, with each receiving ₹3 Lakhs. This support is aimed at nurturing early-stage ventures and strengthening the startup ecosystem.

NEW INITIATIVES

Launch of the new facility: The VentureLab Thapar

With a great audience from all over India the new building for VentureLab Thapar was inaugurated. Speaking on the occasion, Dr. Rajeev Ranjan Vederah, Chairman, Board of Governors, emphasized building a strong ecosystem for India's next wave of innovators, while Prof. Padmakumar Nair, Director, TIET, highlighted its role in connecting grassroots innovation with global opportunities. Inspired by the internationally recognized (VentureLab International model, presented by prof. Aard Groen, the initiative will offer startups access to a vetted training and mentoring system, and access to funding, world-class infrastructure, and international networks, bolstering northern India's entrepreneurial ecosystem.

The VentureLab Thapar program

In September 2024 the VentureLab Thapar started with the first group and when the building was ready all awareness sessions, training sessions and many mentoring sessions use this magnificent facility. By now around 50 startups were or are in the program which comprises of 3 times 10 weeks of training, mentoring, as well as access to networks and funds. The three 10 week parts of the program build up from the earliest phase of venture development to making it ready to go to market and scale up creating value for customers, personnel and society.

Inauguration of the Co-Innovation Center with IHFC- IIT Delhi

The Thapar Institute of Engineering & Technology inaugurated its Co-Innovation Center with Innovation-Hub Foundation – IIT Delhi on February 13, 2025, to support research and innovation towards commercialization. Dr. Ashutosh Dutt and Dr. Akash Sondhi from IHFC visited TIET and accord an agreement for collaboration. Under this initiative, students, faculty and startups will be supported under various programs of DST.

Research Valorisation Sessions

Team Thapar Innovate had the privilege of hosting faculty and research scholars from the Center of Excellence in Data Science and Artificial Intelligence at VentureLab Thapar for an insightful session on Research Valorization. The discussion focused on strengthening collaboration for translational research beyond TRL4.

Achievements

Thapar Institute of Engineering and Technology Recognized as the Top Technical Institute Supporting Startups.

We are proud to share that TIET has been honoured as the Top Technical Institute Supporting Startups at the Samagam Leaders' Conclave 2025.

Celebrating Innovation: TIET Startup RepatGUD Secures ₹50 Lakhs Investment on Shark Tank India

Ms. Isha Jhawar, founder of Repeat Gud, secured ₹50 Lakhs from Anupam Mittal on Shark Tank India Season 4. Her startup offers vegan, sugar-free and preservative-free sauces - from jaggery-based condiments to cashew mayo - aimed at healthier choices in everyday foods

Recognition for Innovation: TinyWires Named Punjab's Most Promising Startup

TinyWires a startup started and incubated at VentureLab Thapar got recognition from the Honourable Governor of Punjab as the most promising startup of the Punjab.

Activities

At VentureLab, esteemed representatives from industry and academia regularly engage in meaningful interactions, fostering collaboration, knowledge exchange, and networking opportunities with students and startups.

MESSAGE FROM PROF. AARD GROEN

10 Years of Entrepreneurship at TIET

In 2015, Thapar Institute set a clear policy goal: to foster entrepreneurial mindsets among students and staff and to establish itself as a leading entrepreneurial hub in Northern India. Guided by Chancellor Dr. (h.c.) Rajeev R. Vederah and Vice Chancellor Prof. (Dr.) Padmakumar Nair, Distinguished Professor of Entrepreneurship Prof. (Dr.) Aard Groen, Associate Dean Entrepreneurship Prof. Mandeep Singh, Prof. Karminder Singh and recently with Chief Innovation Officer, Ms. Shivani Thapar, the Institute began its journey toward becoming a true entrepreneurial university.

Over the past decade, entrepreneurship has become an integral part of the TIET experience. Today, nearly 3,000 engineering students annually receive structured entrepreneurship education delivered by more than 40 trained faculty members, many of whom were prepared through collaborations with the University of Groningen. Entrepreneurship has also been extended to Ph.D. programmes, ensuring that innovation and venture creation are embedded across all levels of study. Student-led initiatives such as the Thapar Venture Club and the Institute Innovation Council have further strengthened awareness and engagement.

In 2025, TIET inaugurated VentureLab Thapar, a professional platform designed to support startups with mentoring, networking, training, and funding opportunities. Built around the 4S model-Skills, Strategy, Scaling, and Social networks-the Lab enables aspiring entrepreneurs to transform ideas into impactful enterprises. Access to national seed funding programs such as MeitY and SISF has already begun to fuel early-stage ventures.

Partnerships have amplified these efforts. TIET collaborates actively with Innovation Mission Punjab, Startup Punjab, industry associations, international universities, and the Thapar alumni network to provide a thriving ecosystem for entrepreneurs.

In just 10 years, these initiatives have transformed TIET into a vibrant hub for innovation and venture creation, empowering students, researchers, and regional innovators, and positioning the Institute firmly on the path to becoming a premier entrepreneurial university.

Conferences & Workshops

CSCME-2025: Celebration of Knowledge, Collaboration & Innovation

The DST-PURSE-supported 24th National Symposium on Catalysis (CATSYMP-24), themed "Catalysis for Sustainable Chemicals, Materials, & Energy," was successfully organized by the Department of Chemistry and Biochemistry, Thapar Institute of Engineering & Technology (TIET), Patiala, from February 24–26, 2025. This event was held as part of the Golden Jubilee celebrations of the Catalysis Society of India (CSI).

The symposium commenced with an inspiring keynote lecture delivered by the Chief Guest, Mr. Jessie Mallhi, President & Head of Reliance Industries Limited (RIL), setting the tone for an intellectually stimulating and enriching event. The inaugural session featured several notable addresses: Prof. Amjad Ali, Symposium Organiser, provided an insightful overview of the event; Prof. Ajay Batish, Deputy Director of TIET, traced the institute's history and future roadmap; Dr. R.V. Jasra, President of CSI, highlighted the society's legacy and significant contributions to catalysis research; Dr. Murthy elaborated on the symposium's vision and objectives; and Prof. Manmohan Chhibber briefed attendees about the host department. The session concluded with a vote of thanks by Prof. Soumen Basu.

As the first in-person symposium in nearly six years, the event also featured the presentation of CSI awards from the previous two occasions. Additionally, 20 awards recognizing excellence in poster and oral presentations were conferred across various categories.

The symposium drew over 300 delegates representing institutions and industries from Kashmir to Kanyakumari and Gujarat to Assam. Notably, approximately 30% of participants hailed from reputed industries-an encouraging trend highlighting growing industrial engagement in academic conferences.

The scientific program included 18 high-quality technical sessions and showcased:

- 7 keynote presentations
- 50+ invited talks
- 50+ oral presentations
- 100+ poster presentations

These covered a broad spectrum of topics in catalysis, such as:

- Catalyst design and characterization
- Catalyst poisoning and regeneration
- Catalysts for cleaner fuels, including hydrogen generation and CO_2 capture & utilization
- Catalysis in petrochemical and polymer industries
- Computational methods in catalysis, among others

A special highlight of the symposium was a keynote address by Padma Shri Prof. G. D. Yadav, a luminary in chemical sciences and catalysis, delivered on February 26, 2025.

The organizing committee extended sincere gratitude to all distinguished speakers for their valuable contributions, and to the generous sponsors-TIET, DST-PURSE, BPCL, HPCL, IOCL, Micromeritics, AMIL, and Hindustan Platinum-whose unwavering support was instrumental in making CSCME-2025 a resounding success.

Teacher Training Workshop on Chemistry Awareness

Department of Chemistry & Biochemistry I April 25–26, 2025

The Department of Chemistry & Biochemistry successfully organized a two-day Teacher Training Workshop on Chemistry Awareness held on April 25 and 26, 2025. The workshop was expertly conducted by Ms. Karima Anjum, a distinguished trainer from Royal Society of Chemistry, and was attended by 60 teachers from various nearby government schools.

This workshop aimed to enhance the teaching skills and subject knowledge of chemistry educators, empowering them to effectively engage students and foster a deeper understanding of chemistry concepts. Through interactive sessions, practical demonstrations, and collaborative discussions, the participants gained valuable insights into innovative teaching methodologies and strategies for making chemistry more accessible and interesting at the school level.

The event served as a significant step towards strengthening science education in local government schools and building a community of well-trained teachers dedicated to nurturing scientific curiosity among students.

Quantum Machine Learning: Theory, Implementation and Practical Applications

The Department of Electronics and Communication Engineering at Thapar Institute of Engineering & Technology, Patiala, organized a week-long Faculty Development Program (FDP) on "Quantum Machine Learning: Theory, Implementation, and Practical Applications", during December 20–24, 2024. The program included comprehensive hands-on sessions on quantum computing platforms, offering a unique opportunity to explore the future of computing. This FDP was convened by Prof. Sanjay Sharma and Dr. Ravi Kumar and Co-ordinated by Dr. Sandeep Mandia and Dr. Chandramohan, all from DECE. The eminent speakers included Ms. Ramanpreet Kaur (Senior Network Engineer, Cisco, India) and Prof. Seema Bawa, Dean Outreach, TIET. The event was inaugurated on 20.12.2024 by the esteemed Pro-Vice Chancellor, Prof. Ajay Batish. A total of 34 participants attended the FDP in the hybrid mode with 24 participants in person. The event concluded on 24.12.2024 with a vote of thanks and distribution of certificates by HDECE Prof. Kulbir Singh.

Cyber Physical Systems in collaboration with iHub - AWaDH @ IIT Ropar

A Faculty Development Program (FDP) Workshop on Cyber Physical Systems was organized in collaboration with iHub AWaDH @ IIT Ropar on 11th and 12th July 2024. The workshop was coordinated by Prof. Rajesh Khanna and Dr. Surbhi Sharma. Expert guidance was provided by Mr. Deshraj Dhiman, Project Manager at iHub AWaDH. The sessions introduced participants to the fundamentals of Cyber Physical Systems (CPS). Hands-on training was conducted using various hardware controllers. Participants also worked with a range of sensors applicable in CPS domains. The workshop highlighted the integration of hardware with intelligent systems. Faculty members gained practical exposure to real-time applications of CPS. The program enhanced their technical competencies and research perspectives. Overall, the FDP successfully built awareness and skills in emerging technologies of CPS.

Hands-on Workshop in Chip Design - FPGA and DFT

A Hands-on Workshop in Chip Design – FPGA and DFT was organized on 5th and 6th April 2025, led by Dr. Anil Singh and Dr. Manu Bansal. The sessions were further enriched by expert talks from Mr. Ankur Sangal, Group Manager at HCL Technologies, Noida, and Mr. Satish Chandra Tiwari from SOCTeamup, Greater Noida. The workshop provided participants with practical exposure to real-world chip design workflows. Students gained insights into Design-for-Testability (DFT) applications and their importance in modern semiconductor design. They also worked on FPGA-based design using industry-standard tools. The hands-on training bridged the gap between academic learning and industry practices. Both undergraduate and postgraduate students actively participated in the sessions. The workshop not only enhanced their technical competencies but also nurtured an understanding of industry requirements. By the end of the program, students were equipped with cutting-edge skills highly relevant to placements, research, and entrepreneurial ventures. Such initiatives strengthen the industry-academia collaboration and prepare students for emerging challenges in chip design.

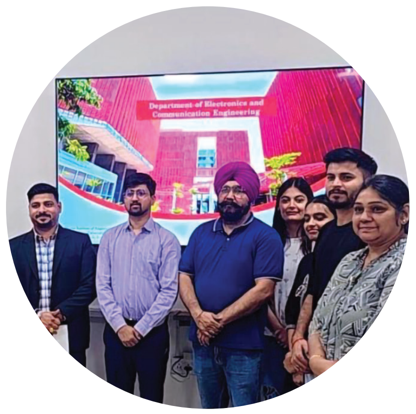
Hands on Workshop on 5G and emerging 6G communication technologies

A workshop on the latest advancements in 5G and emerging 6G communication technologies was organized by Dr. Amanpreet Kaur in the Department of Electronics and Communication Engineering on 28th March 2025. The event featured expert contributions from Dr. Asheesh Sharma and Mr. Madhukar Tripathi from Anritsu. Around 250 students and faculty members participated in the workshop. The participants included B.E. (ECE) students and researchers of TIET. Around 30 Faculty Members working in the area of wireless communication, antenna design, and related domains also attended this workshop. The workshop began with an overview of the evolution of wireless communication from 2G to 5G. Experts demonstrated state-of-the-art 5G equipment through hands-on sessions. Participants gained valuable practical insights into 5G testing and applications. The discussions also highlighted the emerging scope of 6G technologies. Future trends and envisioned applications of 6G were explored in detail. The workshop successfully bridged academic learning with industry-driven advancements in wireless technologies.

Material Characterization and S-Parameter Measurements

A Workshop on "Material Characterization and S-Parameter Measurements" was organized in Department of Electronics and Communication Engineering on 13th June 2025 by Dr. Amanpreet Kaur-I. The workshop featured expert sessions by Mr. Anil Pooriya, RF Engineer at Agmatel India Pvt. Ltd., and Mr. Gaurav Bakshi, Deputy General Manager at Agmatel India Pvt. Ltd. The event provided a unique blend of theoretical insights and practical demonstrations. More than 35 students and faculty members participated in the workshop. The participants included researchers working in material characterization, antenna design, and related domains. Participants were introduced to S-parameter measurements of RF components using a Vector Network Analyzer (VNA). Detailed discussions were held on material characterization techniques. Experts also showcased applications of these techniques in modern RF and wireless systems. A comprehensive overview of the Keysight solution portfolio was presented. The sessions helped bridge conceptual knowledge with real-world applications. Students and faculty gained hands-on exposure to advanced RF tools. The workshop proved highly beneficial in enhancing practical skills and industry readiness.





Activities at TSLAS

Over the past year, the Thapar School of Liberal Arts and Sciences (TSLAS) has demonstrated a robust commitment to interdisciplinary learning and cultural enrichment through diverse academic and artistic initiatives. The institution's musical programming featured distinguished performances by our faculty Ms. Vaibhav Sakshi, who presented Hindustani vocal recitals at prestigious venues including the "Raga Ras" event organized by Anuraag Foundation at India Habitat Centre, New Delhi in June 2025, a Guru Purnima musical baithak in July 2025, and a Krishna Bhajan Sandhya in Patiala, Punjab in August 2025.



Complementing these musical endeavors our faculty member Ms. Prabhleen Kaur spearheaded visual arts initiatives, organizing a painting workshop under the FAPS Society and participating in notable exhibitions including Art Spectra at the All India Fine Arts & Crafts Society (AIFACS), New Delhi, and the Aagaz Exhibition at Punjabi University, Patiala. These creative programmes were complemented by academic events in philosophy (ICSSR funded conference "Mind and Knowledge"), workshops in psychology ("Cognitive Behavior Therapy" and "Rewiring Thoughts: Practical CBT for Everyday Challenges"), a conference in economics ("Workshop on Dynamics of Punjab Economy: Challenges and Future Pathways"), workshop on responsible management education ("Principles for Responsible Management Education"), and interdisciplinary debate ("Exploring New Research Avenues: A conversation among heterodox economics"), consolidating TSLAS's role as a regional hub for rigorous inquiry and public engagement.



Outreach

Expanding Horizons: Strengthening Outreach and Engagement

This year has been a remarkable journey in strengthening our outreach and engagement initiatives, reflecting TIET's commitment to shaping future leaders and creating meaningful connections with students, parents, and educators. Through a series of dynamic programs and interactions, we have successfully extended our presence across India and beyond, ensuring that the Thapar experience resonates globally.

Our outreach efforts covered over 450 schools, spanning every region of the country. From the northern plains to the southern coasts, and from the eastern heartlands to the western corridors, our team reached 170 schools in North India, 130 in South India, 75 in East India, and 70 in West India. Beyond the national boundaries, we connected with 15 international schools in the UAE, Oman, and Nepal, introducing students to the academic rigor and holistic learning environment that define TIET. These engagements were further amplified through participation in numerous career fairs and application days, workshops, and interactive sessions, offering students an opportunity to show them a path about their academic futures.

A key highlight of the year was the Counsellors Fly-In program, designed to build deeper relationships with school counsellors. Over the course of the year, we hosted three such immersive programs, each spanning two to three days, during which counselors experienced the campus in its entirety. These visits enabled them to gain a comprehensive understanding of our academic offerings, interact with faculty and students, and witness firsthand the vibrant life at TIET.

In an effort to create more personal and informal interactions, the outreach team introduced "Thrive with Thapar – Coffee Chats", a unique initiative aimed at connecting with prospective students and their parents in a relaxed setting. These sessions provided a platform for open dialogue about career aspirations, programs, and life at TIET, all over a cup of coffee. So far, Coffee Chats have been successfully held in Muscat, Dubai, Bangalore, Lucknow, Kolkata, Dehradun, and Delhi, leaving a strong impression of warmth and accessibility.

April 2025 marked the beginning of another pioneering initiative, Educators for Excellence (E4E). This platform brings together academic leaders and educators to collaborate and exchange ideas. Since its inception, four chapters of E4E have been successfully organized: the UAE Chapter in Dubai on 12th April, the Lucknow Chapter on 3rd May in association with The Times of India, the Kolkata Chapter on 3rd July in association with The Times of India, and the Patiala Chapter hosted at our campus from 8th to 10th July. Each chapter served as a vibrant forum for thought leadership, dialogue, and partnerships, reinforcing TIET's role as a key contributor to educational transformation.

Strengthening our on-campus engagement, we also welcomed over 25 schools for immersive campus tours, including esteemed institutions like Mayo College, Ajmer. These visits allowed students to experience TIET's infrastructure, interact with faculty, and explore the facilities that make our campus a hub of academic excellence and innovation.

Internationally, our presence was equally strong. TIET participated in the Study in India exhibitions across Dubai, Abu Dhabi, Ras Al Khaimah, Muscat, and Sohar, along with several school visits in the UAE and Oman. Furthermore, our participation in educational exhibitions in Nepal strengthened our global outreach and reaffirmed TIET's position as a trusted destination for quality higher education.

Collectively, these initiatives represent more than just outreach—they reflect our vision of building bridges between academia and aspirants and nurturing a community of learners that transcends geographical boundaries. At TIET, we remain committed to expanding these horizons, ensuring that the journey of learning continues to inspire and empower students worldwide.

Students Achievements



Formula SAE Italy

Formula SAE Italy, organized by the Associazione Tecnica dell'Automobile (ATA), is one of the most prestigious international Formula Student competitions, bringing together university teams from around the world to design, build, and race a Formula-style car. The TIET team delivered an impressive performance, securing 4th place in Autocross, 6th in Engineering Design, 6th in Cost and Manufacturing, and an overall 5th position.

Formula Bharat

Formula Bharat, organized by Curiosum Tech Private Limited, is a premier Formula Student competition that provides engineering students with a platform to demonstrate their expertise in designing and manufacturing Formula-style race cars. The event fosters innovation, technical proficiency, and teamwork among participants.

In the recent edition, a total of 57 teams competed, including 34 in the Electric Vehicle (EV) category. The TIET teamdelivered an impressive performance, achieving:

- 9th place in Engineering Design
- 7th place in Business Plan Presentation
- 8th place in Statics Overall
- 8th place Overall in the Competition

International Rover Challenge (IRC) 2025

The International Rover Challenge (IRC) 2025, organized by the Space Robotics Society (SPROS), was held from January 28 - February 2, 2025, at BITS Pilani - KK Birla Goa Campus. The competition brought together leading student teams from around the world to test their Mars rovers in Sproscape-the world's largest simulated extraterrestrial terrain, spanning more than 20,000 m^2.

The TIET team delivered an outstanding performance, securing the 1st Runner-up position (2nd place worldwide)along with the award for Best Autonomous Expedition (AbEx) Task.

The ERC Robotics Hackathon 2024 challenged participants to design an advanced electrical surveillance robot capable of navigating campus environments, analyzing power machinery, and identifying regions of electrical failure.

The TIET team excelled at the national level, securing 1st place in India with awards for Best Mechanical Design and Best Automation.

Smart India Hackathon (SIH) 2024

The Smart India Hackathon (SIH) 2024, a premier nationwide initiative, engages students in solving real-world challenges posed by government bodies and industries. Under the problem statement SIH 1618, proposed by the Municipal Corporation of Delhi (MCD), participants were tasked with developing innovative technological solutions for monitoring unauthorized construction in Delhi.

The Creative Computing Society team-comprising Akarsh Srivastava, Gurman Kaur, Pancham Agarwal, Reyan Singh, Kanishk Jagya, and Pariansh Mahajan-emerged as winners, showcasing an innovative solution marked by exceptional technical expertise and creativity.

American Express Campus Challenge 2025-Product Track

The Product Track of the American Express Campus Challenge 2025, hosted by American Express, provided a competitive platform for students to demonstrate their product mindset and data analytics skills. Participants analyzed match performances to generate actionable insights and recommendations for data-driven decision-making by management and sponsors.

The challenge comprised three rounds:

The event attracted over 1,381 participants nationwide. Arsh Chatrath from Thapar Institute delivered an exceptional performance, securing the 3rd rank at TIET and placing in the Top 15 nationwide, earning both a Pre-Placement Interview (PPI) opportunity and a pair of Apple AirPods.

Google Girl Hackathon 2025

Prisha Kandhari achieved an outstanding milestone by securing the runners-up position at the prestigious Google Girl Hackathon 2025. With over 58,000 registrations across India, only 76 participants advanced to the grand finale after several rigorous rounds, making this an exceptional achievement.

In the final stage, Prisha presented MediChat AI, an innovative diagnostic assistant designed as a conversational chatbot. Her solution integrated multiple pre-trained machine learning models to deliver dynamic and personalized health assessments, asking clarifying questions to improve accuracy and providing tailored medical recommendations.

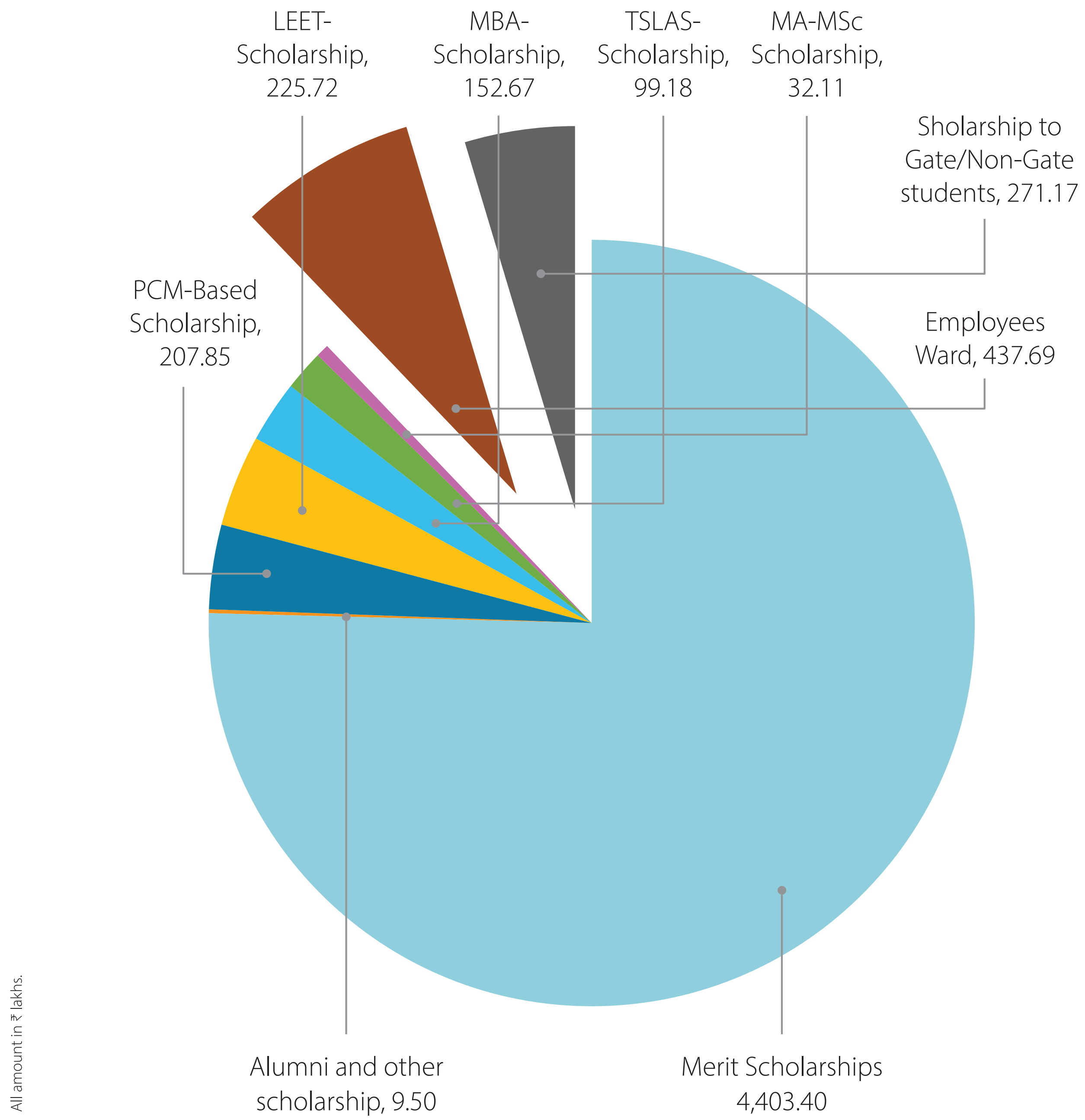
Google Summer of Code (GSoC) 2025

Mankirat Singh, former Technical Head of MLSC, has been selected for Google Summer of Code (GSoC) 2025 with PostgreSQL. Under the mentorship of David Wheeler and Pavlo Golub, he worked on developing an ABI Compliance Reporting System for the official PostgreSQL repository.

His project addressed the critical challenge of maintaining ABI stability between PostgreSQL releases, a task that previously depended on manual reviews and often risked unintended breakages. To solve this, he successfully integrated automated ABI compliance checks into the PostgreSQL Build Farm using the Libabigail suite, enabling analysis of changes across commits and architectures.



SCHOLARSHIP



Total Scholarship Disbursed is 5839 Lakhs

Financials 2025

YEAR ENDED 31ST MARCH, 2025

SN	PARTICULARS	Sch. No.	**For Year ended 31.03.2025**	For Year ended 31.03.2024
A	INCOME		₹ ('000)	₹ ('000)
1	Tuition Fee	15	35,05,523	33,40,292
2	Other Academic Fee	16	4,77,776	3,97,688
3	Hostel Income	17	12,15,333	12,16,090
4	Interest Income	18	1,31,735	1,23,213
5	Income from Facilities	19	9,874	6,364
6	Income from Enterprise Activities		508	5,891
7	Miscellenous Income	20	1,30,917	98,760
8	Excess of Expenditure over Income		7,67,771	54,275
	Total		**62,39,437**	**52,42,572**

SN	PARTICULARS	Sch. No.	**For Year ended 31.03.2025**	For Year ended 31.03.2024
B	EXPENDITURE		₹ ('000)	₹ ('000)
1	Establishment Expenses	21	23,54,861	20,87,843
2	Scholarship Expenses		3,65,741	3,08,695
3	Contribution to Projects		4,635	18,006
4	Student Activities & Welfare Expenses	22	22,492	19,271
5	Facility Expenses	23	957	2,570
6	Other Operating Expenses	24	22,40,484	16,24,695
7	Depreciation	10	11,28,802	9,89,765
8	Provisions for Gratuity		62,487	1,30,878
9	Provisions for Leave Encashment		58,977	60,849
	Total		**62,39,437**	**52,42,572**

Medals

Chiranjiv Singh Malhi
President Medal
Prof. V. Rajaraman Computer Science/Engineering Award

Ishan Agarwal
President Medal

Udit Munjal
S. Ranbir Singh Memorial Medal

Namanbeer Maini
S. Ram S. Sidhu Memorial Medal

Mitali Bansal
Governor Medal

Adya Singh
Governor Medal

Aditi
Governor Medal

INSTITUTE MEDALS

Bachelor of Engineering Chemical Engineering	**Kathit Goyal**
Bachelor of Engineering Civil Engineering	**Kakshit Verma**
Bachelor of Engineering Computer Engineering	**Jaskaran Singh**
Bachelor of Engineering Computer Science & Engineering (Derabassi Campus)	**Prisha Sawhney**
Bachelor of Engineering Computer Science & Engineering (Patiala Campus)	**Chiranjiv Singh Malhi**
Bachelor of Engineering Computer Science & Business Systems	**Adya Singh**
Bachelor of Engineering Electrical Engineering	**Namanbeer Maini**
Bachelor of Engineering Electrical & Computer Engineering	**Umar Shaikh**
Bachelor of Engineering Electronics (Instrumentation & Control) Engineering	**Mahika Aery**
Bachelor of Engineering Electronics & Communication Engineering	**Aditya Naithani**
Bachelor of Engineering Mechanical Engineering	**Samanvay Gaur**
Bachelor of Engineering Mechatronics Engineering	**Anirudh Singla**
Bachelor of Engineering Electronics & Computer Engineering	**Gobind Arora**
Bachelor of Technology Biomedical	**Girisha Kukreti**
Bachelor of Technology Biotechnology	**Eesha Kohli**
Master of Engineering CAD/CAM Engineering	**Shivani Khandpur**
Master of Engineering Computer Science & Engineering	**Amrita Kundu**
Master of Engineering Structural Engineering	**Rajat Rajesh Raj Attri**
Master of Engineering Thermal Engineering	**Amanpreet Singh**
Master of Technology Biotechnology	**Sana Sood**
Master of Technology Environmental Science & Technology	**Vidhi Tyagi**
Master of Technology VLSI Design	**Archit Gupta**
Master of Business Administration	**Aditi**
Master of Business Administration (Business Analytics And Big Data)	**Abhinav Sharma**
B.E.-MBA Dual Degree Bachelor of Engineering	**Bhavika**
B.E.-MBA Dual Degree Master of Business Administration	**Sohani**
Master of Arts Psychology	**Isha Sharma**
Master of Computer Applications	**Aishwarya**
Master of Science Biotechnology	**Anshika**
Master of Science Chemistry	**Ashish Kumar**
Master of Science Mathematics & Computing	**Swati Bansal**
Master of Science Physics	**Kajal Kumari**
Bachelor of Liberal Arts (4-Year Program) Bachelor of Arts	**Maanavi Arora**
Bachelor of Liberal Arts (4-Year Program) Bachelor of Science	**Anushka Kumria**
Bachelor of Liberal Arts (3-Year Program) Bachelor of Business Administration	**Jasnaaz Sidhu**
Bachelor of Liberal Arts (3-Year Program) Bachelor of Arts	**Riya**

World Top 2% Scientists

TIET faculty featured in Stanford's global top 2% scientist list 2025.

University of Aston confers **Doctor of Science (Honoris Causa) to Chancellor**

Chancellor Rajeev Ranjan Vederah has been conferred with the Doctor of Science (Honoris Causa) degree by Aston University, recognizing his outstanding contributions and leadership.

LMTSM Director **Appointment**

Prof. D. P. Goyal joined the Thapar Institute of Engineering and Technology (TIET) community on May 5, 2025, as Director and Dean of the LM Thapar School of Management (LMTSM), Dera Bassi Campus.

A distinguished academician and visionary leader with more than 38 years of experience, Prof. Goyal previously served as Director of IIM Shillong, where his tenure was marked by significant institutional growth and transformation. His illustrious career also includes key leadership roles at MDI Gurgaon and IMT Ghaziabad, along with the authorship of numerous research publications and textbooks.

The TIET community looks forward to his dynamic leadership in steering LMTSM toward new milestones of academic and institutional excellence.

New Infrastructure

Campus Development

Campus Development Plan: Campus as a garden

The comprehensive campus development plan represents a strategic initiative that integrates environmental sustainability, student well-being, and institutional growth. This multifaceted approach transforms the campus into a pedestrian-friendly environment with advanced flood-resistant infrastructure and a carefully designed microclimate system. Key environmental features include extensive green spaces that improve air quality, a 10-kilometer cycling network promoting sustainable transportation, and landscaping designed to support local wildlife habitats. These initiatives collectively reduce the campus's carbon footprint while creating natural air filtration systems that enhance the overall Air Quality Index and provide healthier outdoor environments for academic and social activities.

The plan prioritizes student and faculty well-being through thoughtfully designed spaces that promote mental health and community engagement. Enhanced recreational areas, relaxation zones, and green spaces are strategically positioned to reduce stress and improve psychological well-being among the campus community. The pedestrian-focused design eliminates traffic safety concerns while creating more opportunities for social interaction and outdoor learning. Additionally, the microclimate system naturally regulates temperatures, reducing energy consumption for air conditioning while providing comfortable outdoor environments year-round. These health-focused improvements contribute to increased satisfaction and academic performance among students and faculty.

From an economic and functional perspective, the development plan significantly enhances institutional value and operational efficiency. The comprehensive infrastructure improvements, including advanced drainage systems and sustainable building practices, reduce long-term maintenance costs while protecting campus assets. The aesthetically appealing landscape design increases property values and enhances the institution's reputation, making it more attractive to prospective students and faculty. Furthermore, the integrated approach to traffic management, safety systems, and accessibility features creates a more functional campus environment that supports diverse academic activities, research initiatives, and community engagement programs while demonstrating the institution's commitment to sustainability and innovation.