25 ANNIVERSARY
Vel Tech

Vel Tech
Rangarajan Dr. Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

STRATEGIC PLAN 2021 - 2026

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STRATEGIC PLAN 2021 - 2026

The Path Ahead

Strategic Plan 2021 - 2026 sets out specific targets in every sphere of activity of the Institute academic programmes, research, collaboration with industry, human resource development, entrepreneurship, development of infrastructure and facilities, student life, placement, community outreach, international and alumni relations. These targets have been set after extensive consultation to ensure that they are both ambitious and achievable The targets will likely be exceeded if the contributions of stakeholder's faculty, staff, students, alumni, international partners and collaborators from industry are aligned and reinforce each other

VEL TECH RANGARAJAN DR. SAGUNTHALA R&D INSTITUTE OF SCIENCE AND TECHNOLOGY

STRATEGIC PLAN 2021 -2026

VISION

To create, translate and disseminate frontiers of knowledge embedded with creativity and innovation for a positive transformation of the emerging society.

MISSION

To nurture excellence in teaching, learning, creativity, and research, translate knowledge into practice; foster multidisciplinary research across science, medicine, engineering, technology, and humanities; incubate entrepreneurship; instill integrity and honor; inculcate scholarly leadership towards global competence and growth beyond self in a serene, inclusive and free academic environment.

Vel Tech has already begun many strategic initiatives to establish itself as one of the Top multi-disciplinary and research-led institutions in India. Some of these are highlighted below.

Academic Innovations:

The institution offers 18 UG, 19 PG and 15 Ph.D. programmes. It has 10434 students and 743 faculty members. Vel Tech has established CDIO-Engineering Workspaces, which are accessible to promote and stimulate hands-on learning of products, processes, system development, disciplinary knowledge, and social learning. Adoption of Outcome Based Education and Evaluation in-line with the Washington Accord has been implemented. Professors from world-renowned premier institutions and expert members from top-tier industries visit Vel Tech on a regular basis for academic and research related discussions

Research:

Institute is pro-active in meeting the demands and goals of NEP-2020 in terms of research. Vel Tech's Research fellowships are given to the full time Ph.D. scholars. Financial incentives for the publication of research papers, consultancy works & funded projects to the faculty members, seed fund and 100% contribution to patenting fees, etc., have created a positive impact on research output. The institution has created a conducive physical ambience with four Center of Excellence (CoE) and 20 laboratories to carry out research activities in emerging areas. The institution has interaction with 3800 industries and signed

342 MoUs with government organizations, industries/ MNCs, international universities, public sector units and R&D labs.

Research Highlights So far

- Vel Tech is a multi-disciplinary teaching and research institute pursuing research activities in more than 10 thrust research areas such as, Additive Manufacturing, Aerodynamics and Propulsion, Artificial Intelligence and Machine Learning, Bio-Nano Technology and Bio-Sensors, Composite Materials and Metallurgy, Computational Fluid Dynamics, Finite Element Analysis, Image Processing, and Deep Learning, Nano-materials and Coatings and Unmanned Aerial Vehicles, etc.
- Vel Tech Research Park houses well established National facilities, Center of Excellence and Cutting - Edge Laboratories to promote research among students and faculty members.
- Vel Tech has received grants worth of Rs 5000+ lakhs from diverse funding agencies such as DST, SERB, DBT, DST-NSTEDB, MeitY, DRDO, ISRO, CSIR, DST-CII-GITA, ICSSR, AICTE, TNSCST, CPRI, MSME, IE and other International Collaborations (Indo – Taiwan, Indo – France, Indo – Canada, Indo – Korea).
- In association with various organizations and industries, sophisticated laboratories were established at Research Park. Over 20 research labs are fully functioning at Research park with active Industry-Academia collaboration. To name a few, the Dassault System Lab, Centre for Autonomous System Research, 3D Printing and Scanning Lab, Cyber Security Lab, Artificial Intelligence Lab and Green Synthesis and Novel Bio & Nanomaterials Lab.
- Institute provides funds for filing provisional, complete specifications until the patent is granted. Seed grant is provided to the faculty members to perform preliminary research, procurement of research equipment, software, and other research activities.
- Research team of Vel Tech involved in development of UAVs in association with University of Victoria, Canada and Daegu Gyeongbuk Institute of Science and Technology (DGIST), South Korea for bridge inspection and water quality monitoring. Indo – France research collaboration focused on the development of Electric Bike.
- High-speed bearing test facility developed with GTRE funding of 188 lakhs is well utilized for testing the bearing of HAL, CVRDE, and GE.
- 25 Research Projects worth of more than Rs. 600 lakhs funded by DBT, DRDO, DST, ISRO, SERB, Central Power Research Institute, and TNSCST are ongoing.
- IPR cell has filed 141 patents and out of which 14 are granted and 114 are published.

- Vel Tech received Rs. 180+ lakh from Non-Govt. agencies and Rs. 700+ lakh from Govt. agencies for pursuit of Research in last five years.
- Institute has more than 171 MOUs with industry and established industry collaborated labs such as WABCO Centre of Excellence (WABCO India), Engine test facility (ARAI, Greaves Cotton, Ashok Leyland and TAFE), High-Speed bearing Test Facility established with the funding from GTRE, DRDO and promotes industry collaborated research with active participation of faculty members and students.
- Institute has 25 ongoing research projects worth Rs.650 lakh, 14 patents were granted and more than 50 funded projects were completed under different funding agencies.
- Knowledge Resource Centre (KRC) houses more than 200 innovation-driven PoCs and research outcomes. It provides a pipeline of innovations required for Vel Tech Technology Business Incubator.
- Vel Tech has strong international collaboration and 166 MoUs were signed between various Universities/research organizations across the globe.

What we do

- We value curiosity-driven research at Vel Tech and reward academic independence by providing an encouraging and supportive work environment. We are known for being passionate doers and always link an objective to an action.
- We employ the best quality people from the best institutions and provide them academic independence to set them free to carry out their research interests in well supported working ambience at Vel Tech. We encourage research to achieve sustainable development goals across the university.
- We can offer more efficient services with stronger faculty strength, and we would always link an objective and action.
- Vel Tech is so much more than a leading research-intensive university. We are an academic university, a university with values and we give importance to student experience besides education and research. Subsequently, our Strategy describes how we will build on our strengths to do more efficiently in research, education and the wider student experience. We believe and expect the best outcomes from our university.
- We will work hard for global recognition and to make Vel Tech a more significant player in our region, and beyond.

Infrastructure:

The institution has created a conducive physical ambience with four Centers of Excellence and 20 laboratories to carry out research activities in emerging areas. It has an excellent residential facility to 8000 students, faculty accommodation facility and sports facility.

Internationalization:

The semester aboard programme with linage of 171 abroad university and nearly 700 students have got opportunity to study their masters in aboard university. Professors from world-renowned premier institutions and expert members from top-tier industries visit Vel Tech on a regular basis for academic and research related discussions.

Entrepreneurship and Innovation:

The institution established the Technology Business Incubator in the year 2010 with the aim to promote entrepreneurship to bring the campus born ventures. Vel Tech Technology Incubator is an institutional mechanism which is dedicated to support entrepreneurship, promoting new technological business ideas to become a growth-oriented start-up.

We are supporting start-ups by providing free incubation space with internet connection, mentoring support, networking support, other strategic partner offerings are from Google Cloud credits, Amazon credits, ZOHO Apps for business, RBL/BOB/DBS bank account, Paytm, Resileo Labs, YNOS venture engine, Effitrac, Stanford seed spark, Wadhwani Foundation, Math works, Sri Ramachandra Hospital, Kauvery Hospital, Sales & Marketing, Training, Workshops. Also, Facility support - Manufacturing CoE, IT/ITES (AI/ML/DL - DGX - I Platform), E-Waste recycling,3D Printing, PCB Line of Equipment and finally financial seed support.

Vel Tech Technology Incubator has been selected as “NIDHI - Centre of Excellence” catalyzed and Supported by NSTEDB Division, Department of Science and Technology (DST), GOI with funding support to scale up its activities. It has also been approved DST-NIDHI-PRAYAS, SEED SSS, MeitY TIDE 2.0, and SISFS.

Incubation Space–30,000 Sq.ft, Office Space–8000 Sq.ft,Thrust area equipment, Space – 64000 Sq.ft, Conference room – 10,000 Sq.ft, Meeting room – 3500 Sq.ft, Our Thrust Area Equipment Space, CoE of manufacturing, E-waste and Plastic waste recycling facility, CoE of Design, Engineering & Manufacturing – Dassault Supported, CoE of Virtual Instrumentation facility – Supported by NI, Additive Manufacturing facility, CDIO Facility – Product development, CoE for Vehicle Control Systems – Supported by Wabco, CoE for SMD & SMT Technologies, CoE for AI, ML & DL – Supported by NVIDIA

Vel Tech established various support services to provide handholding support to incubated start-ups,

Mentoring for Prototype or Product development or Commercialization

- In-house 3D Printing, PCB Design and fabrication, CNC machines, CDIO lab to support prototype development
- Start-up coach – experienced teaching faculty to mentor the product development
- Demo day/ support to incubates to participate in technical events
- Industry connects to get expert advice

Functional Support - Legal Advice, H.R. Support, Marketing support

- Associated with Rajasekaran Associates for speedy IP/Legal advice IPR policy in place
- Mentoring support from Chennai Patent office/NRDC – Visag
- IP Adviser – Dr BK Sahu, VIZAG to advice incubated Start-ups
- Regular events to educate Start-ups on importance of IP protection

Networking – Investor, Corporate, Government etc

- Vel Tech TBI established wide industry associations for mentorship, technical support
- Knowledge Partner of EDII TN – Voucher Programme
- Associated with FICCI, SPIN, CII, ISBA.
- Partnered with Industry Association – ACMA, AIMA, SIDCO & TIDCO

Funding done by incubator into incubates

- NIDHI PRAYAS Scheme –funded 28 idea stage start-ups
- DST – SEED Support Scheme supported 13 Start-ups to the tune of 2.00 Cr
- EDII TN Voucher Programme – Funded One Start-up worth of 3.5 lakhs
- MeitYTIDE2.0 Scheme - funded 4 idea stage start-ups

Ranking and Recognitions:

In recognition of competitive excellence, Vel Tech stands in the top hundred positions in ‘NIRF India Ranking’ under the engineering category in a row of five years. The Institute has received major awards in the recent past, including Times Higher Education Rankings for the “Young University Rankings 2022”, QS Asia University Rankings 2022 and Diamond University Rating awarded by QS I-GAUGE, University of the year 2020 by Higher Education Review, Outstanding Engineering Institute for Research and Innovation in 2020 and Outstanding University in Training and Placement in 2021 by Digital Learning. In ARIIA Ranking (Innovation and Entrepreneurship), the institution bagged the Fifth position out of 800 institutions in 2019 and ranked in Excellent Band where 36 universities are listed out of 2400 institutions in 2021.

Outreach Programmes:

On par with national goals regarding social engagement and life skills, the institute is organizing many societal outreach events with NCC, NSS, UBA, SB schemes and student clubs. Also, Hackathons (Software and Hardware), SANDHAI and other prominent events are regularly organized to motivate students in developing their extracurricular activities.

VISION 2021 - 2026

Strategic Plan:

The strategic plan of this Institution sets goals on major thrust areas of development. It is believed that the collective efforts of all the stakeholders will lead towards the successful achievement of goals of the strategic plan 2021 -2026. Several initiatives are being taken with the tremendous co-operation and support of the stake holders in order to have a better and amiable external and internal environment.

The Plan envisages focus on eight major areas viz.

1. Curricular Aspects improvements
    a. Teaching and Learning
    b. Open Distance learning
    c. Holistic and Multi-Disciplinary Education
    d. Learning Resources
2. Research & Development
3. Innovation and Entrepreneurship
4. Extension Activities
5. Infrastructure Development
6. Industry Partnerships
7. Internationalization
8. Ranking and Recognitions

which covers all the transformational changes in the developmental processes as given hereunder:

Frame work of Vision 2021 - 2026 and Strategic Plan

VISION and MISSION

Curricular Aspects
- Continous improvement in Design of curriculum with Stakeholders inputs
- Academic Flexibility
- Multiple entry / exit

Teaching & Learning
- Improvement in TLP
- ICT adoption for Delivery
- ***Competency***
- Delivery of content through industry experts

Open Distance learning
- Focus to bring more Distance learning courses

Learning Resources
- E content development
- Adaption of ABC
- Weightage of MOOCs/NPTEL courses
- Adaption of Holistic education

Research & Development
- Research Centric Institution
- Research Projects/IPR
- Quality Publications
- Cutting Edge Research Centres

Innovations and Entrepreneusrhip
- Vibrant Innovation Ecosystem
- Incubation promotion
- Atmanirbhar drive
- Focus on Employability Generation

Extension Activities
- Extension activities with NGOS
- Claen India/ AAB
- NCC/NSS & Social Club Activities
- Social issues participation

Specific Objectives and Targets

Industry partnerships
- Industry Associations for enrichment of curriculum, refinement and delivery
- Industry faculty to deliver courses

Internationalization
- International partnership
- Foreign professor appointment
- Students exchange
- Global benchmarking of curriculum

Infrastructure Development
- Digital technology adoption
- ICT enabled Teaching and Learning

Ranking and Recognitions
- Positioning NIRF top rankings
- Global rankings

Holistic and Multi Disciplinary Education
- Acheiving NEP 2020 goals on Multidisciplinary and interdisciplinary programmes
- Flexible academic programmes

Active Participation and approval

Board of Studies | Academic Council | Board of Management

Curriculum Development and Implementation of Academic reforms

(Curriculum and Teaching & Learning)

The institution has been adopting interdisciplinary programs in the thrust areas of study in the faculties of Engineering Technology, Law, Management, and Arts and Science, expanding them in a gradual manner and it is hoped that the institution can offer interdisciplinary courses more extensively. Focusing on offering market-oriented interdisciplinary programs at all levels under this facet, will be largely helpful to the students to be aware of setting trends and it enables them to build skill sets.

Falling in line with the recommendations of the National Education Policy (NEP), It has been proposed to establish a separate cell to monitor induction of a number of schools in multi-disciplinary in nature and to modify existing schools, especially the School of Basic Sciences, School of Management and Law to make them as a School of Liberal Studies and to frame modalities and guidelines as how to effectively these programs can be with the support of partner institutions, wherever, necessary. There is also a proposal to offer disciplines such as Health Economics, Data Sciences, Bioinformatics, etc. at this Institution under interdisciplinary facet, in the near future.

It is believed that the Pedagogical innovations and curriculum changes will promote more inter-disciplinary learning by using technology, involved in teaching and learning. The Institution is strongly believing that there should be a transit from the customary learning methodologies to more practical learning approaches facilitating experiential learning as it is felt that this is the need of the hour. Technology reforms such as powered classrooms allowing for innovative pedagogical approaches like (i) Flipped Classrooms, (ii) MOOCs, (iii) Collaborative Learning, etc., will be constituted to promote education delivery towards global standards.

Hybrid learning is termed as the combination of online and offline modes of teaching and learning process. The institution is planning to set up more number of Active Learning spaces (ALSs) in the Institution. By virtue of the experience that this institution had during the COVID 19 pandemic, the faculty members have gained adequate knowledge and experience in the conduct of online classes and preparation of course materials, activities connected with the delivery of online lectures, distribution of course materials, uploading them in you tubes etc. The institution has been establishing a well-furnished media studio

in the department of media studies with an intention of uploading classic course materials, learning guidelines and principles in the national sites like NTPL and Swayam.

The CDIO (Conceive-Design-Implement-Operate) initiative engineering workspaces, established in the University as first of its kind in India, providing the real industry atmosphere to the students to perform all the duties of professional engineers during the entire programmer of their study. The Vel Tech curriculum bench marked internally with CDIO syllabus version, 2.O fulfils the graduate attribute of National Board of Accreditation (NBA Tier 1) Washington accord and adheres to the guideline of the Choice Based Credit System (CBCS) based flexible curriculum.

The Institution is also re-modeling the curriculum to include components of Research curriculum pattern called Under Graduate Research Opportunities Program (UROP), internships, capstone project or thesis.

The Institution is planning for the Introduction and implementation of short-duration courses of with the duration of less than a year for the working people in pursuit of career growth, by assigning this responsibility to a senior faculty on a standalone basis or in collaboration with industry partners/ international academic institutions.

This institution will go for ABET accreditation for the core engineering programs in its all campuses during the plan period.

The institution has been intensively working out an intensive plan for getting NBA accreditation for all its departments within this plan period and it is also believed that the Institution will get A++ status under NAAC Accreditation.

Vel Tech is planning to establish Center of Excellence (CoE) in areas to improve the quality of research by investing in faculty development, increasing the number of post graduate and doctorate students and extensively building a network of partnerships with leading local and global institutions.

Learning Resources

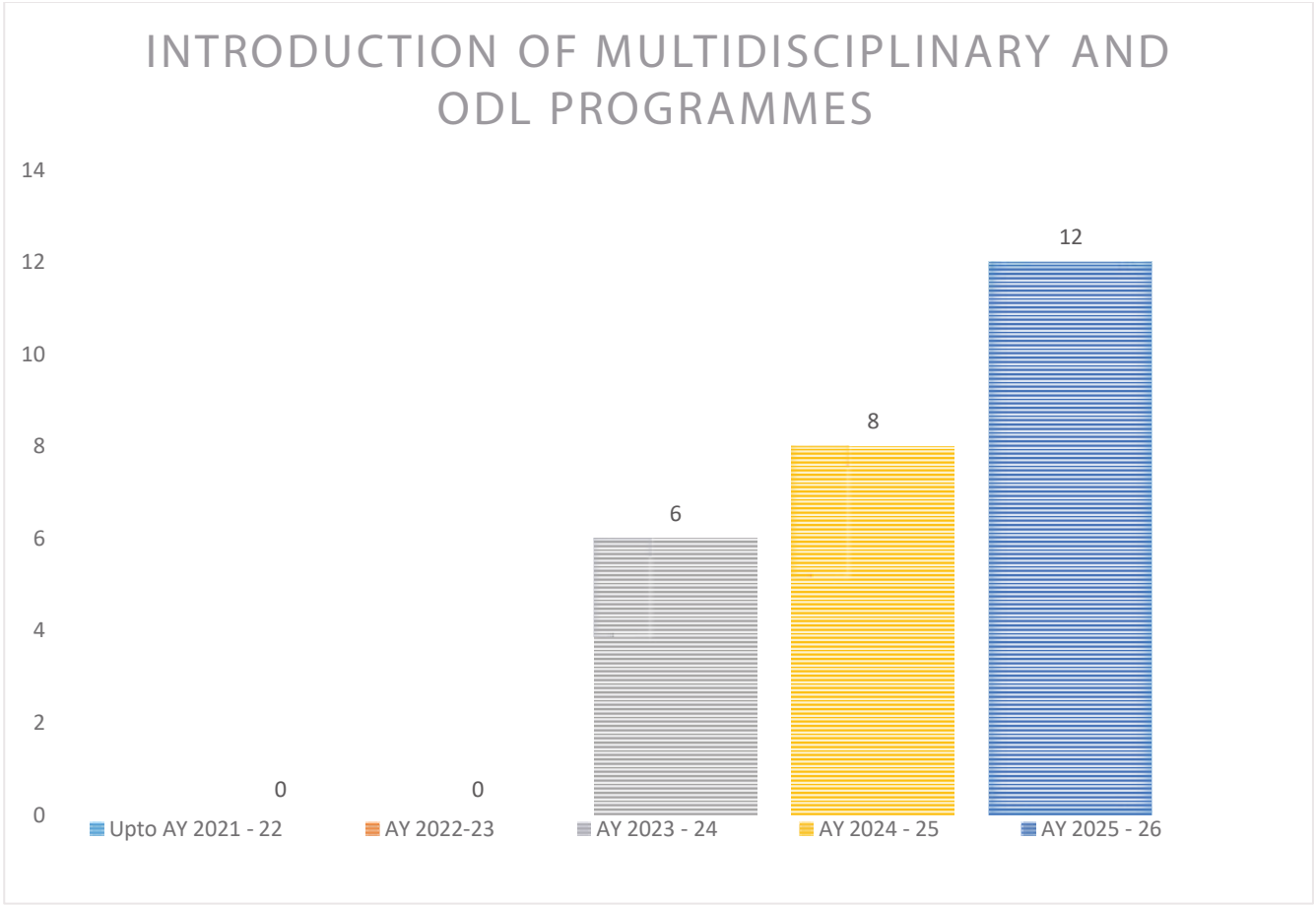
Institutional library holdings in terms of books, journals, e-resources and other learning materials including technology-aided learning mechanisms which enable students to acquire information, knowledge and skills required for their study programmes are adequate. A recent development in the field due to availability of digital technologies, is in the functioning of the library which has undergone a drastic change. Automation of library using the ILMS, use of e-journals and books, providing remote access to e-resources in the library have become a matter of necessity. Providing for these and other such developments as well as utilizing them well are important indicators of the quality of an academic institution.

Emergence as high rated and focused learning institution

1. Development of effective curriculum to cater to the industry needs. In consonance with the New Educational Policy
2. To Focus on Inter disciplinary and Multidisciplinary programs along with industry oriented online courses leading to graduates
3. Increase of students to 15,500 with 5% International students
4. Facilitating industrial internships / Visits for enhancing industry-readiness and employability of students.
5. ABET accreditation for core engineering programmes
5. Introducing new programmes in emerging areas and multi-disciplinary PG programs
6. Improving performance of students in competitive and professional examinations
7. Increase the number of full time Ph.D. Scholars with stipends

Progress in Academic reforms would be tracked on the following parameters.

Sl. No	Particulars	Up to AY 2021 - 22	AY 2022-23	AY 2023 - 24	AY 2024 - 25	AY 2025 - 26
1	Introduction of Multidisciplinary and ODL Programmes	-	-	6	8	12
2	ABET accreditation for core engineering programmes	-	-	2	3	4
3	Students Strength	10,500	11,500	12,500	13,500	14,500
4	No. of Research Scholars to be admitted	565	640	715	790	865
5	No. of Scholars to be Awarded	137	177	227	287	357
6	Introducing new programmes in emerging areas & Multi-Disciplinary Programmes	3	6	9	12	15
7	Increase the number of full time Ph.D. Scholars with stipends	94	124	154	189	224


INTRODUCTION OF MULTIDISCIPLINARY AND ODL PROGRAMMES
14
12
10
8
6
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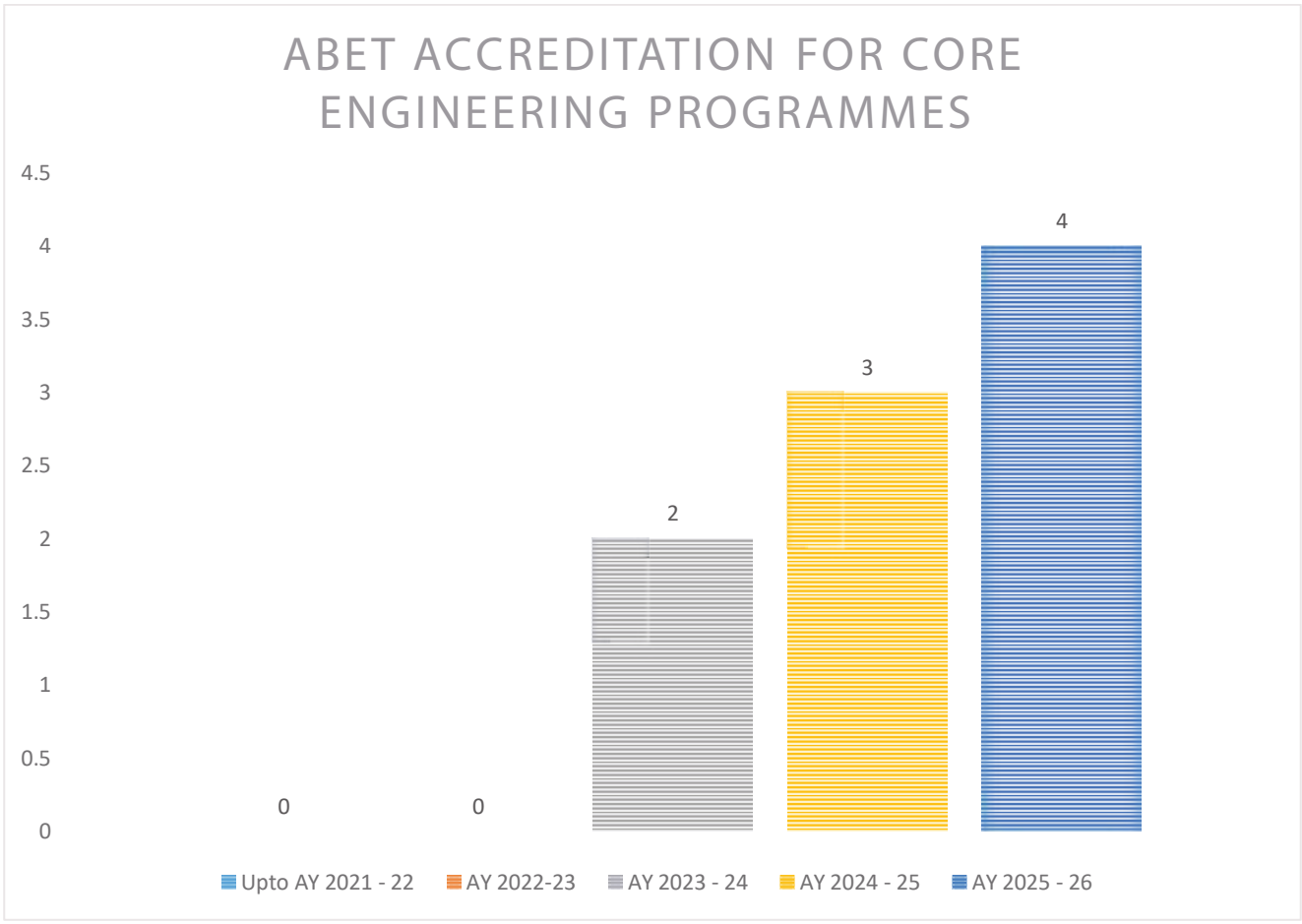
12
Upto AY 2021 - 22
AY 2022-23
AY 2023 - 24
AY 2024 - 25
AY 2025 - 26


ABET ACCREDITATION FOR CORE ENGINEERING PROGRAMMES
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4
3.5
3
2.5
2
1.5
1
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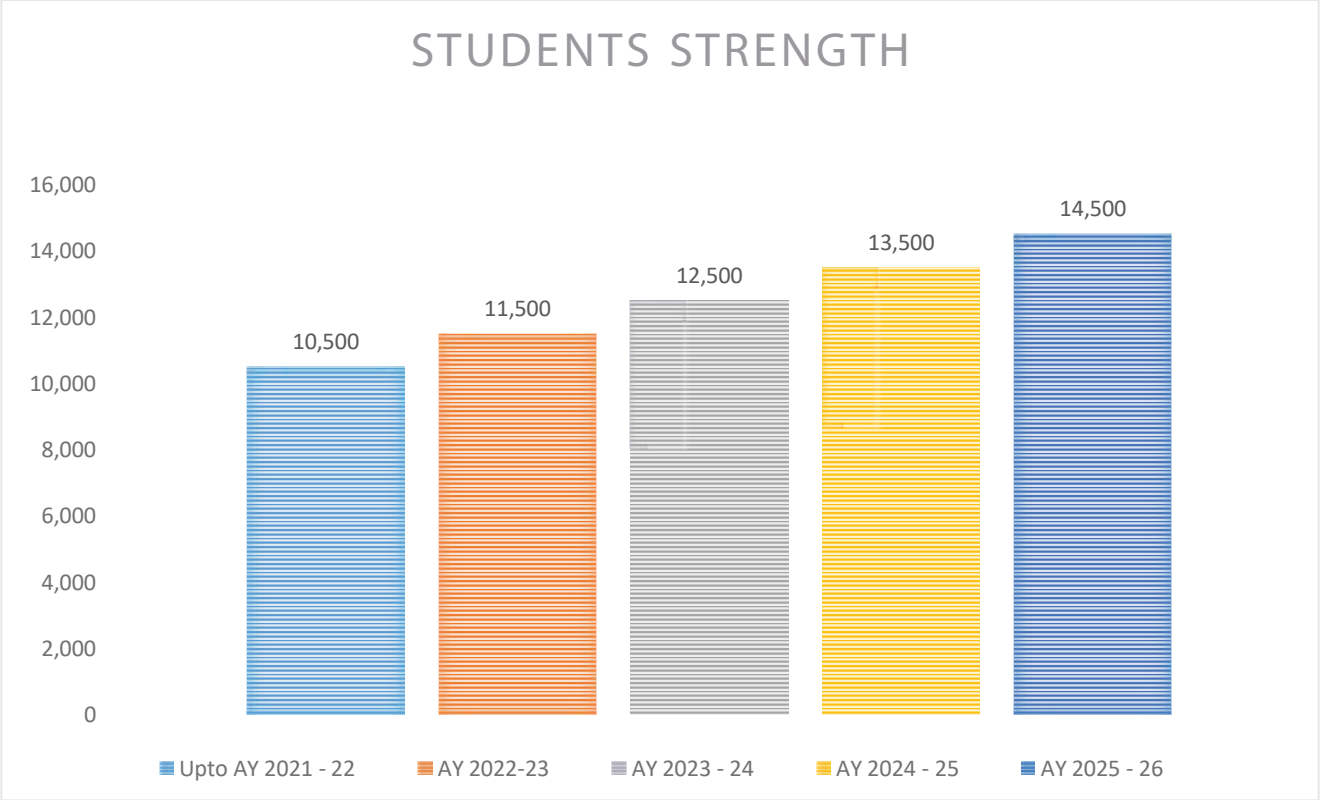
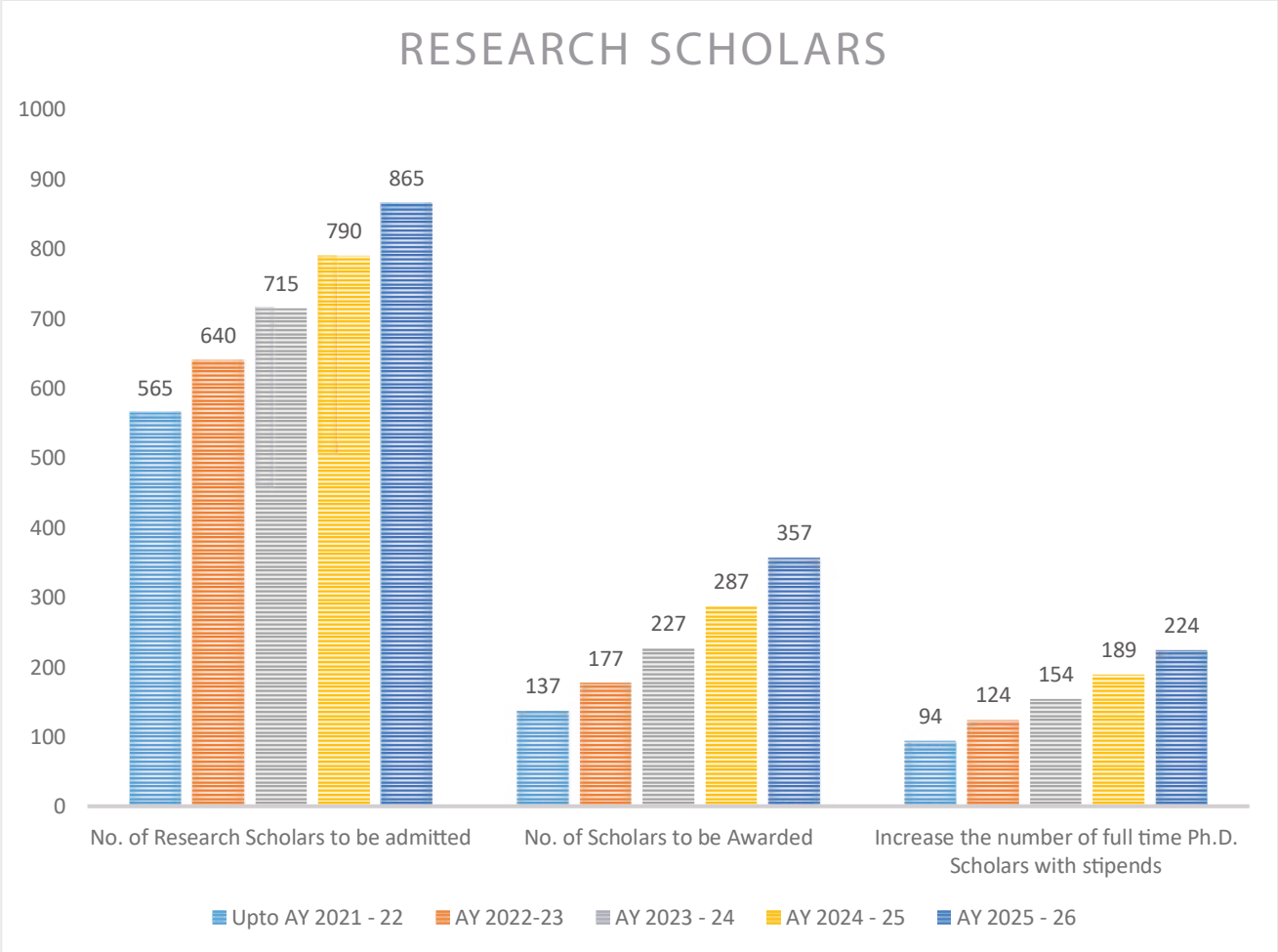
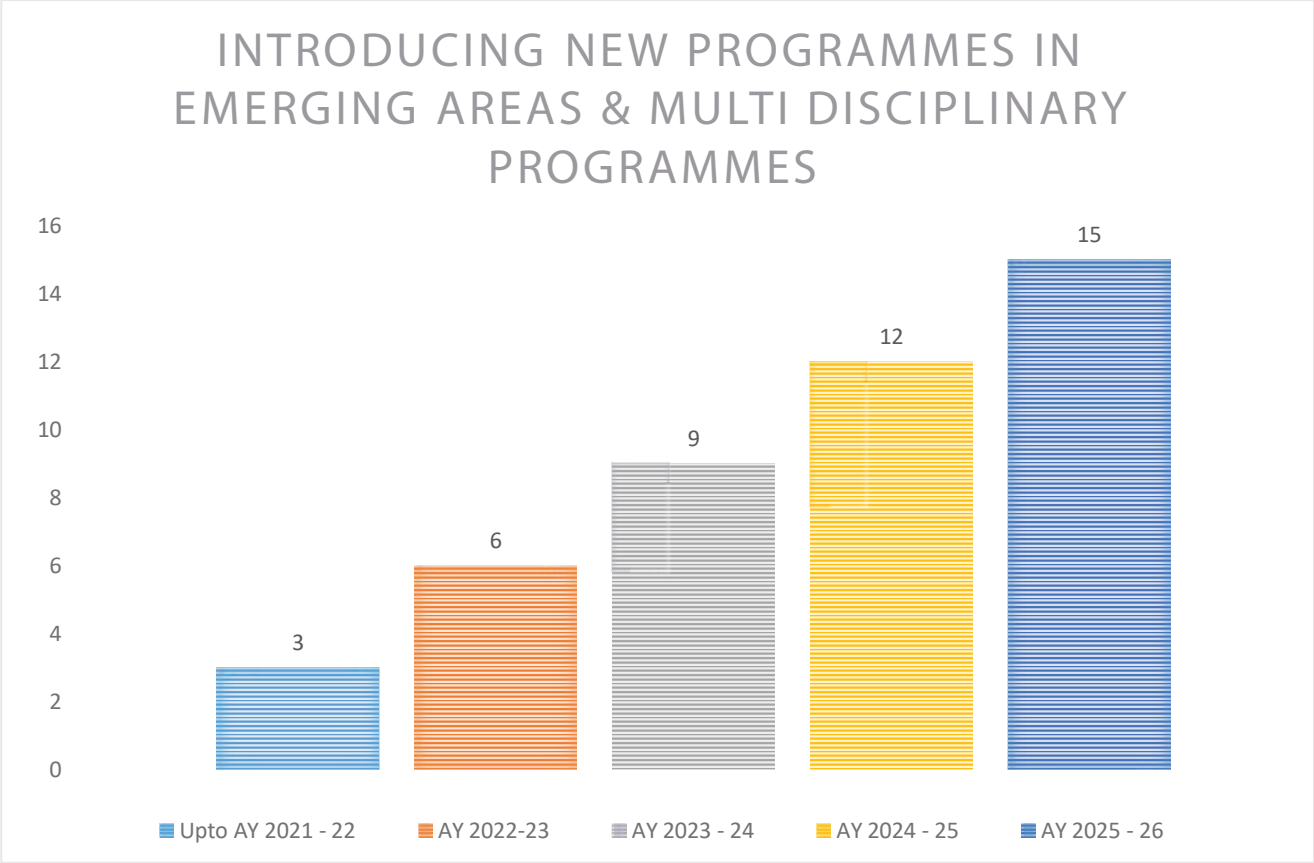
Upto AY 2021 - 22
AY 2022-23
AY 2023 - 24
AY 2024 - 25
AY 2025 - 26


STUDENTS STRENGTH
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
10,500
11,500
12,500
13,500
14,500
Upto AY 2021 - 22
AY 2022-23
AY 2023 - 24
AY 2024 - 25
AY 2025 - 26


RESEARCH SCHOLARS
1000
900
800
700
600
500
400
300
200
100
0
565
640
715
790
865
137
177
227
287
357
94
124
154
189
224
No. of Research Scholars to be admitted
No. of Scholars to be Awarded
Increase the number of full time Ph.D. Scholars with stipends
Upto AY 2021 - 22
AY 2022-23
AY 2023 - 24
AY 2024 - 25
AY 2025 - 26



Research & Development

Vel Tech has established a Research Park that houses various laboratories that carry out basic and applied research in several core domains and also inter-disciplinary domains.

Some of the thrust areas are - autonomous vehicles, additive manufacturing, waste management through biological treatment, advanced materials, engineering analysis, advanced materials etc. One of the most important features of the research park is the Vel Tech -France CoI laboratory dedicated the development of innovative devices and motors for medical and strategic applications.

The research Park is also the harbinger for fostering relations with the University of Victoria and Tamkang University by virtue of which projects under IC IMPACTS and also GITA are jointly carried out by Vel Tech. Vision 2021 envisages a major focus on Research Park with an estimated inflow of 4% international students and more number of MoUs with Industry and International Institution in a span of 5 years. The continued support by DRDO, DST, DAE etc. has enabled the faculty to set up well-equipped research laboratories.

Research Excellence - Goals

Research & Engagement

We are and we will:

- Deliver an immense quantity of quality global research across all academic departments through existing in-house COEs and always prepared to establish new ones
- Produce and propagate research that has a positive impact on regional, national and international challenges where it benefits society as a whole and helps to establish a valuable economy with a decent physical environment
- Offer a productive research environment with rewards and incentives throughout the year and facilitate an outstanding research-led learning experience to workforces

People

We are and we will:

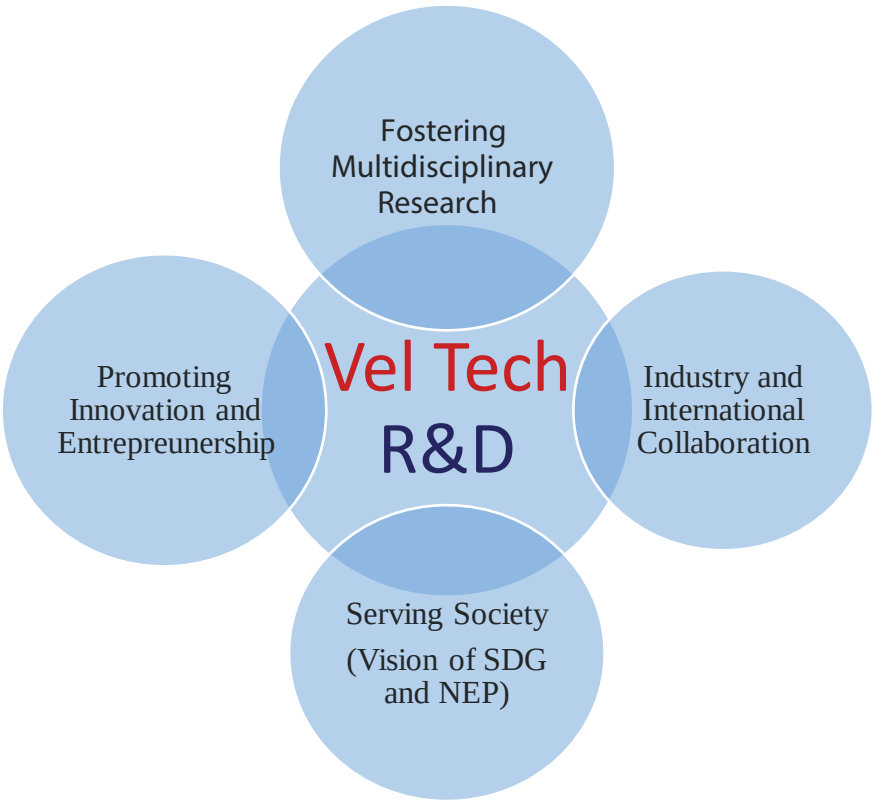
- Strengthen our manpower by steady recruitment and mentoring staff members with the highest quality professional resources.
- Foster job satisfaction, productivity and career advancement routes for employees, and constitute creative teams with colleagues where they can develop their professional expertise
- Safeguard that progressively diverse workforce is treated equally, impartially, and with respect and that all personnel are evidently valued and actively engaged

Future Prospects of Research

Vel Tech has been undertaking research in consonance with the needs of the national and international agencies involved in research and has been successfully carrying many research projects in the multiple disciplines. Hopefully, Vel Tech can handle two hundred plus research projects in the next five years successfully.

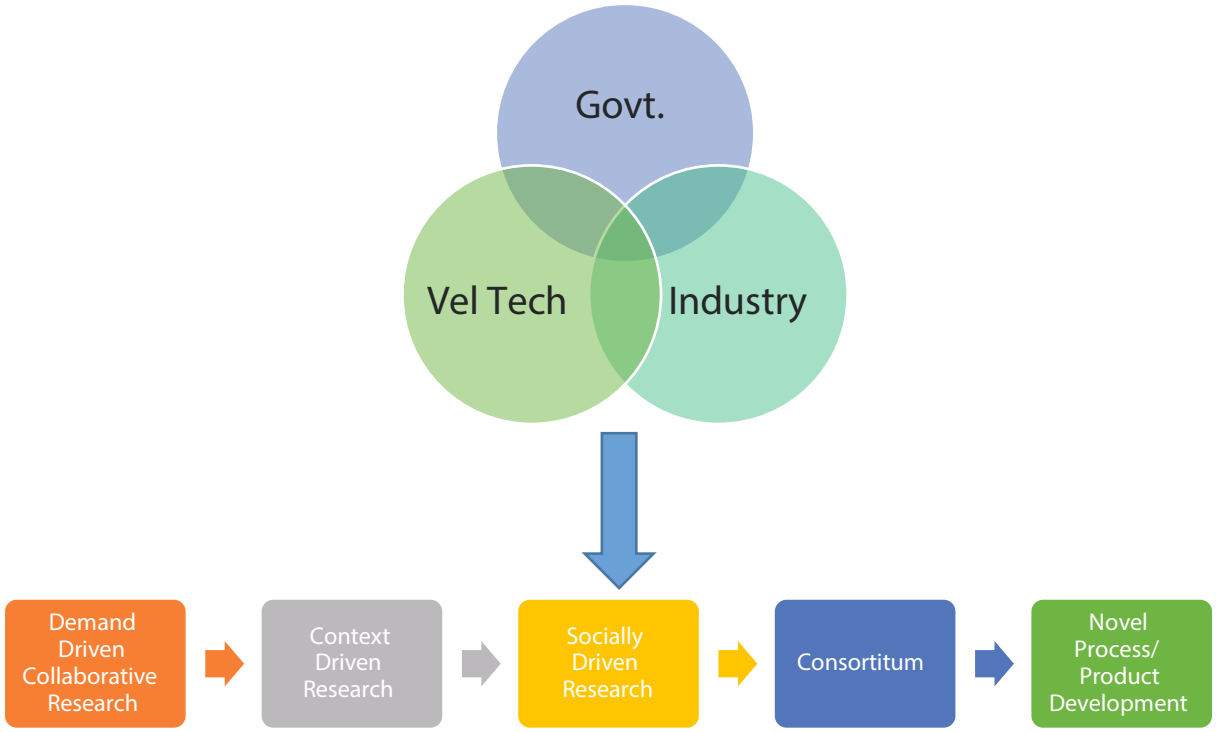
The centres of excellence in partnership with industries such as WABCO, Dassault Systems, National Instruments, IBM etc., have led to specialized facilities with dual benefits of skilling the students in high technology domains and also enabling concerted research. Vel Tech will be setting up Technology Transfer Cell for enhancing commercialization aspects with Industry-Academia Collaboration. The researchers and the faculty members who have interest in multi-disciplinary research are encouraged research under this facet.

Vel Tech R & D ecosystem will focus on four main themes



The extramural grants for specific research areas from various funding agencies, industry sponsorships, CSR funds for research, international collaborative research funds would be resourced in Five years to increase the funding of Rs 2000 lakh. The Ph.D. qualified faculty members will be increased to 80% and number of Ph.D. students would be 1000 in 2026 for promoting high quality research serving to societal needs. The research outcome of the faculty in terms of increase in publications, citations, patents and funded projects will be targeted.

Industry – Academia Collaborative Research

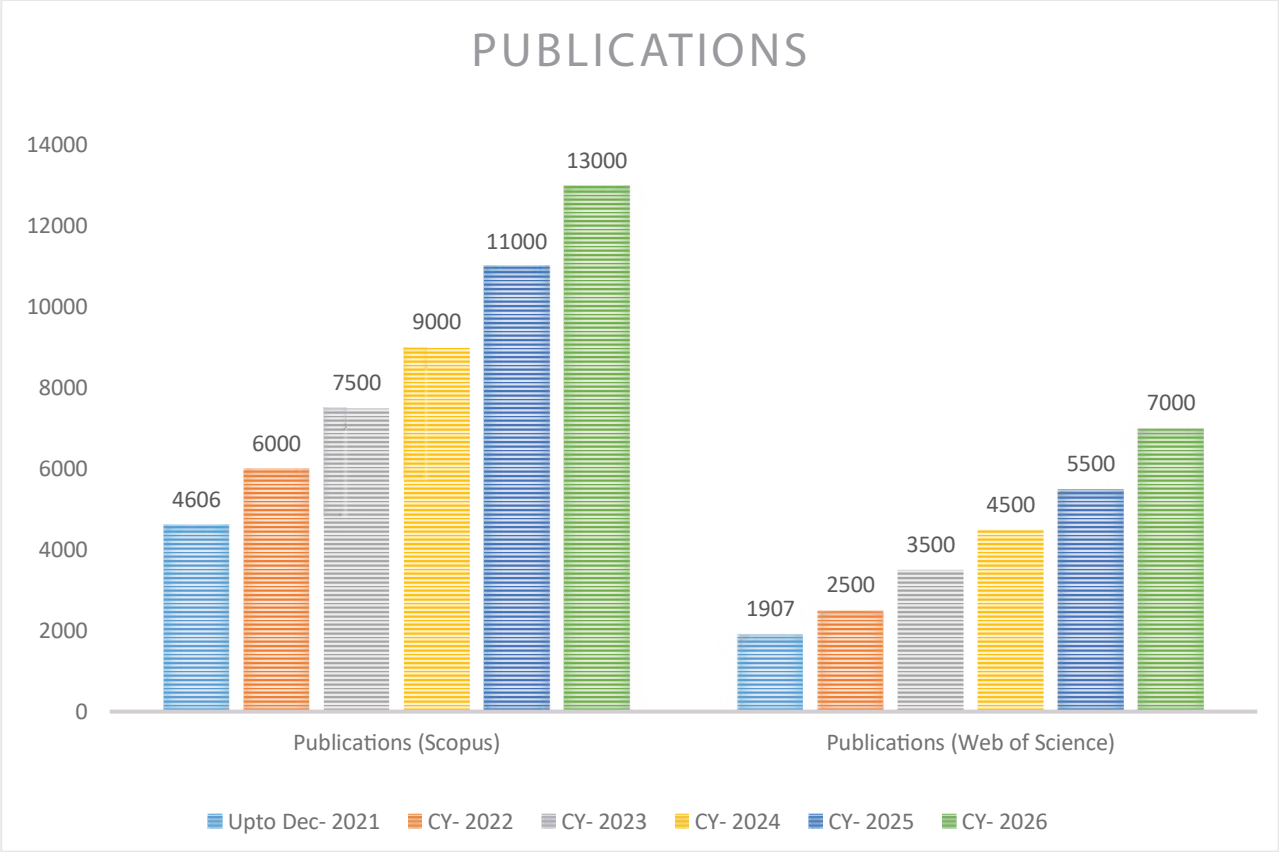


- Focusing on the translational research towards the need of the industry and society by building a well-defined process model.
- Marching towards creating center of excellence in the development of bio products, innovative process development, biomedical diagnostics and green energy etc.
- Research of social relevance, which impacts society directly in terms of environment friendly technologies including safe drinking water, sanitation, organic farming, clean energy (solar energy, green fuels, etc), disaster management and mitigation through Industrial collaboration.
- Center for functional material classes ranging from semiconductors to polymers and molecular crystals to nanoparticles for the industry needs will be established.
- Getting projects from BIRAC government funding agency in collaboration with industries.
- Extend our research facility for industry experts to pursue Ph.D. in collaboration with our faculty members.
- Creating various domains for the students as per industrial demands, providing solutions, scaleup the industries for validation and implementing the techno - economic analysis.

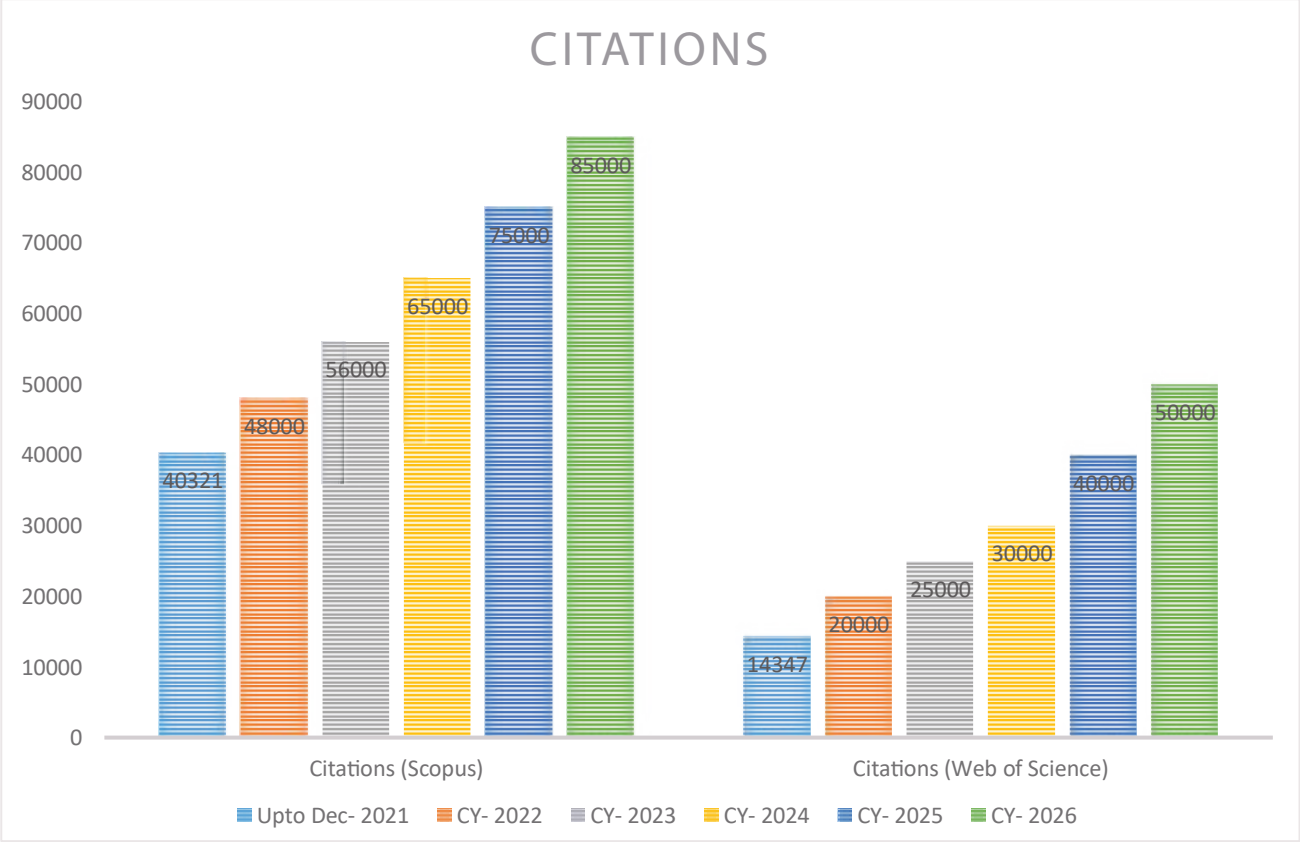
International Collaborative Research

Progress in Research & Innovation would be tracked on the following parameters

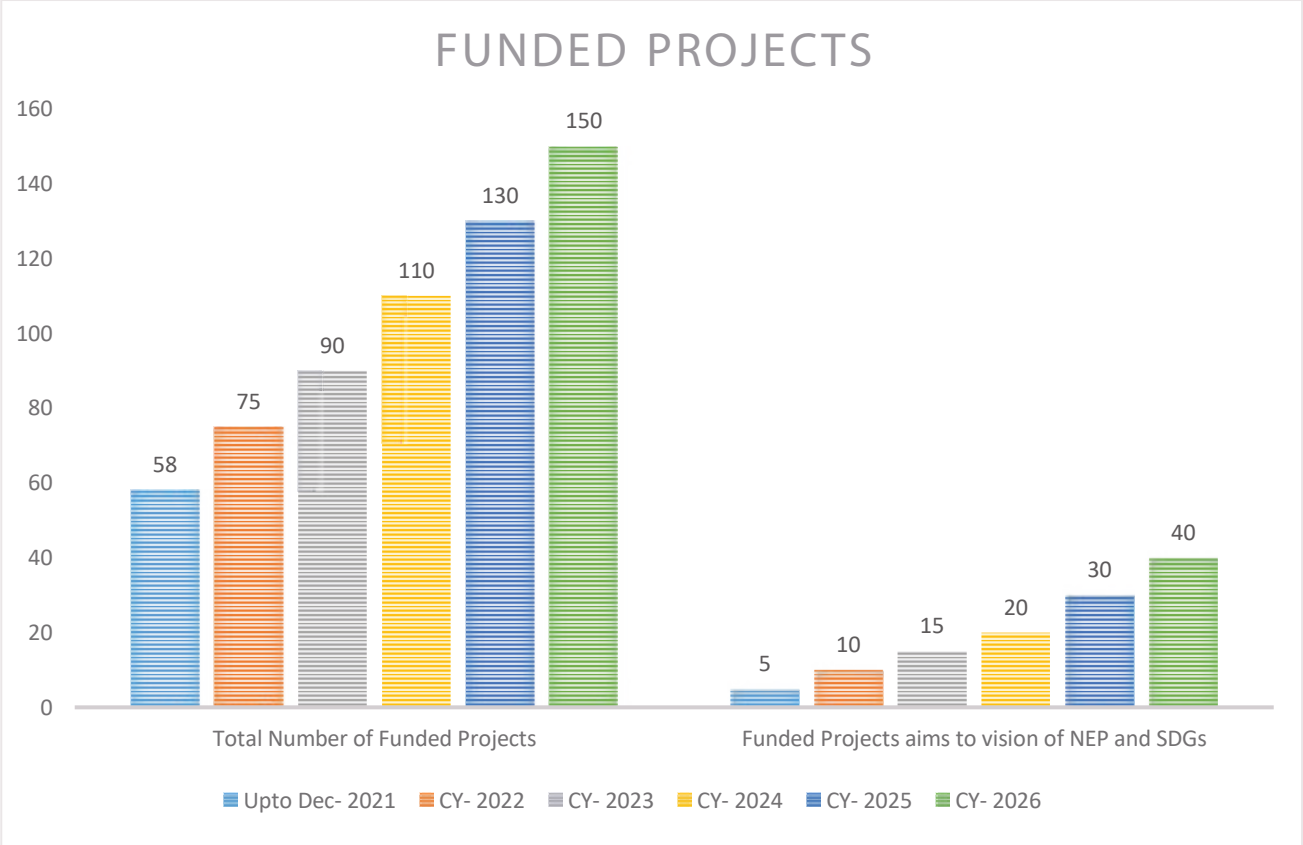
Sl.No.	Particulars	Up to Dec-2021	CY-2022	CY-2023	CY-2024	CY-2025	CY-2026
1	Publications (Scopus)	4606	6000	7500	9000	11000	13000
2	Publications (Web of Science)	1907	2500	3500	4500	5500	7000
3	Citations (Scopus)	40321	48000	56000	65000	75000	85000
4	Citations (Web of Science)	14347	20000	25000	30000	40000	50000
5	Total Number of Funded Projects	58	75	90	110	130	150
6	Funded Projects aims to vision of NEP and SDGs	5	10	15	20	30	40
7	Industry-Academia Collaborative Research	5	10	15	20	30	40
8	International Collaborative Research	4	6	8	12	16	20
9	Patents (Application / Grant)	141/ 14	175 /20	200/ 25	225/30	250/35	275/40
10	Commercialization	1	5	10	20	35	50



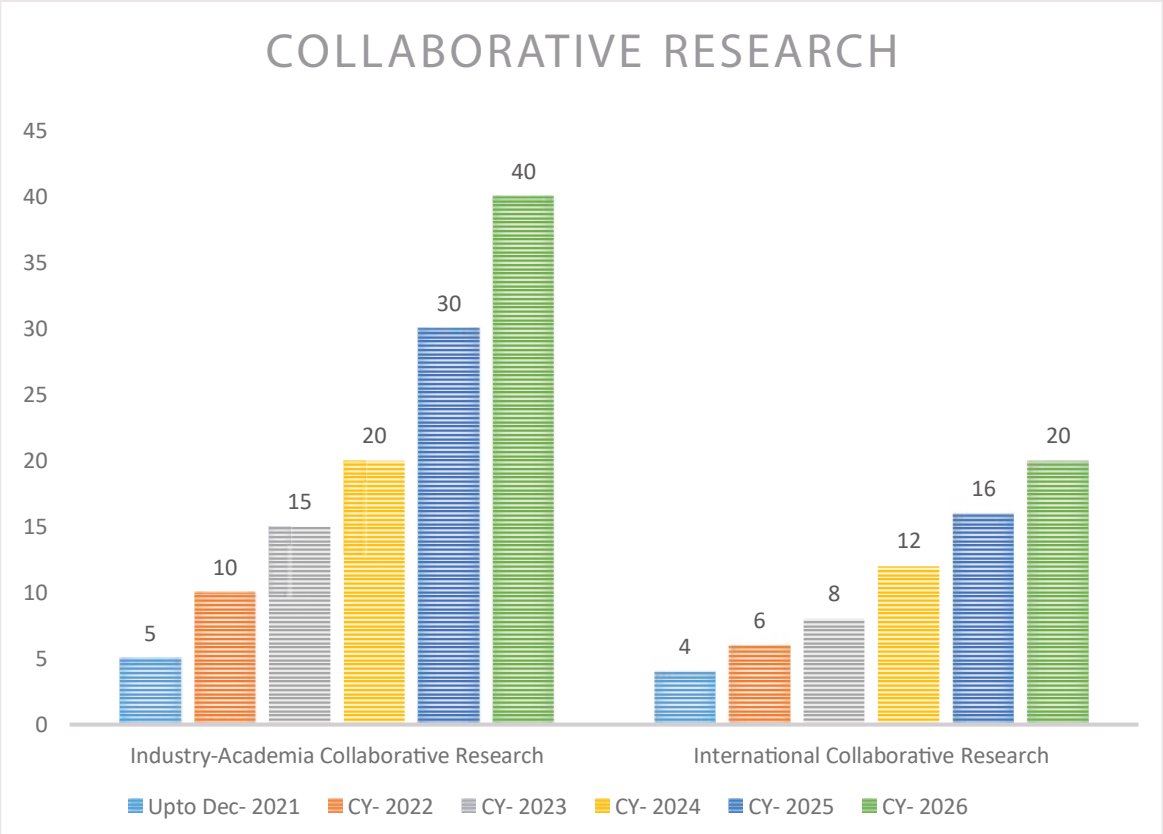
PUBLICATIONS



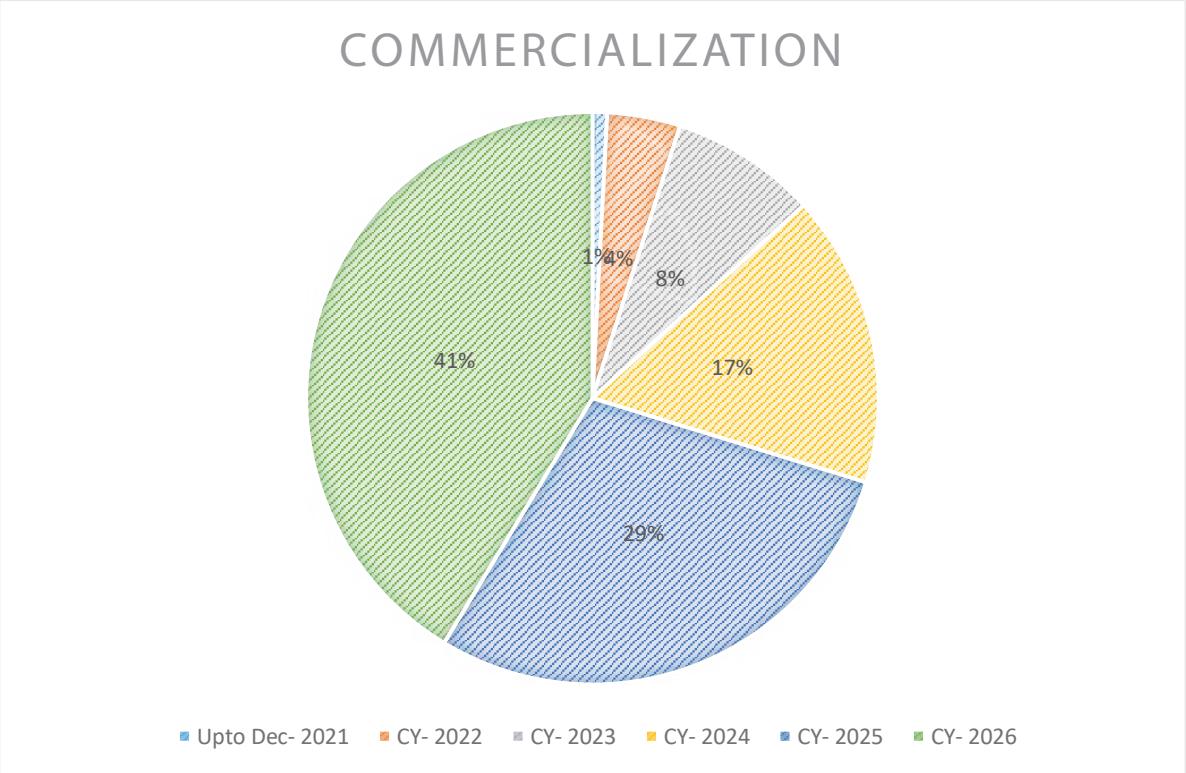
CITATIONS



FUNDED PROJECTS



Collaborative Research



Commercialization

Innovations and Entrepreneurship

The Technology Incubator (TBI) sanctioned by DST was promoting innovations and ventures in the area of Waste Management (E-waste / Biowaste / Plastic waste), 3D Printing, Embedded systems / VLSI, Micro Air Vehicle (MAV) Automobiles and Information Technology. TBI fosters and supports technology-based knowledge-driven companies by providing around of help in terms of workspace, access to specialized equipment along with value-added services like find raising, legal services, business planning, and other technical assistance.

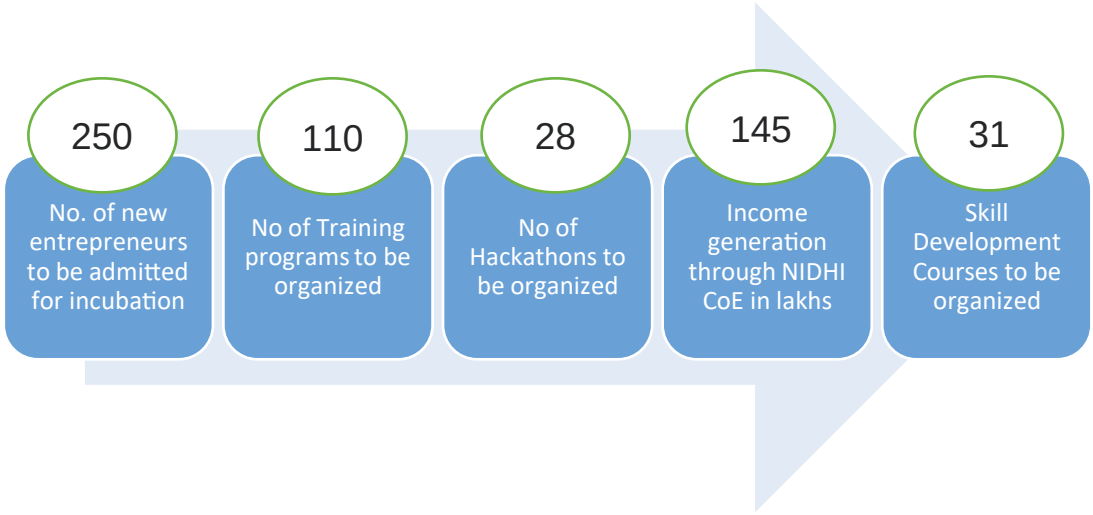
Vel Tech TBI (Technology Business Incubator) enables technology embedded and innovation powered start-ups to survive and scale across a wide-spectrum of thrust areas with funding, infrastructure, mentorship, industry networking, resources and training. Vel Tech TBI established with E-waste and Plastic waste management as its thrust area and created national recycling facility of e-waste and plastic-waste management, Bio incubator to support bio technology innovations, 3D Printing facility. It was one of the first institution from India to be a member of StEP (Solving the e-waste problem) instituted by Germany.

In the year 2015, Department of Science and Technology supported Rs. 2 Cr under DST – Seed Support System. Under this, Vel Tech TBI incubates get financial loan (Convertible debt) up to Rs. 50.00 Lakhs.

In the year 2017, Department of Science and Technology, Ministry of Science and Technology, Govt of India has recognized six existing Technology Business Incubators as Centre of excellence under NIDHI (National Initiative for Developing and Harnessing Innovations, Vel Tech TBI was recognized as one of the Centre of Excellence based on the performance and thrust area focused and received support of INR 23 Cr. In line with our National Mission “Make in India”, Vel Tech TBI has created the state of art facilities such as manufacturing facility with advanced CNC machines, NDT technology for product development & inspection, NVIDIA supported AI, ML, DL & digital services lab to support IT innovations.

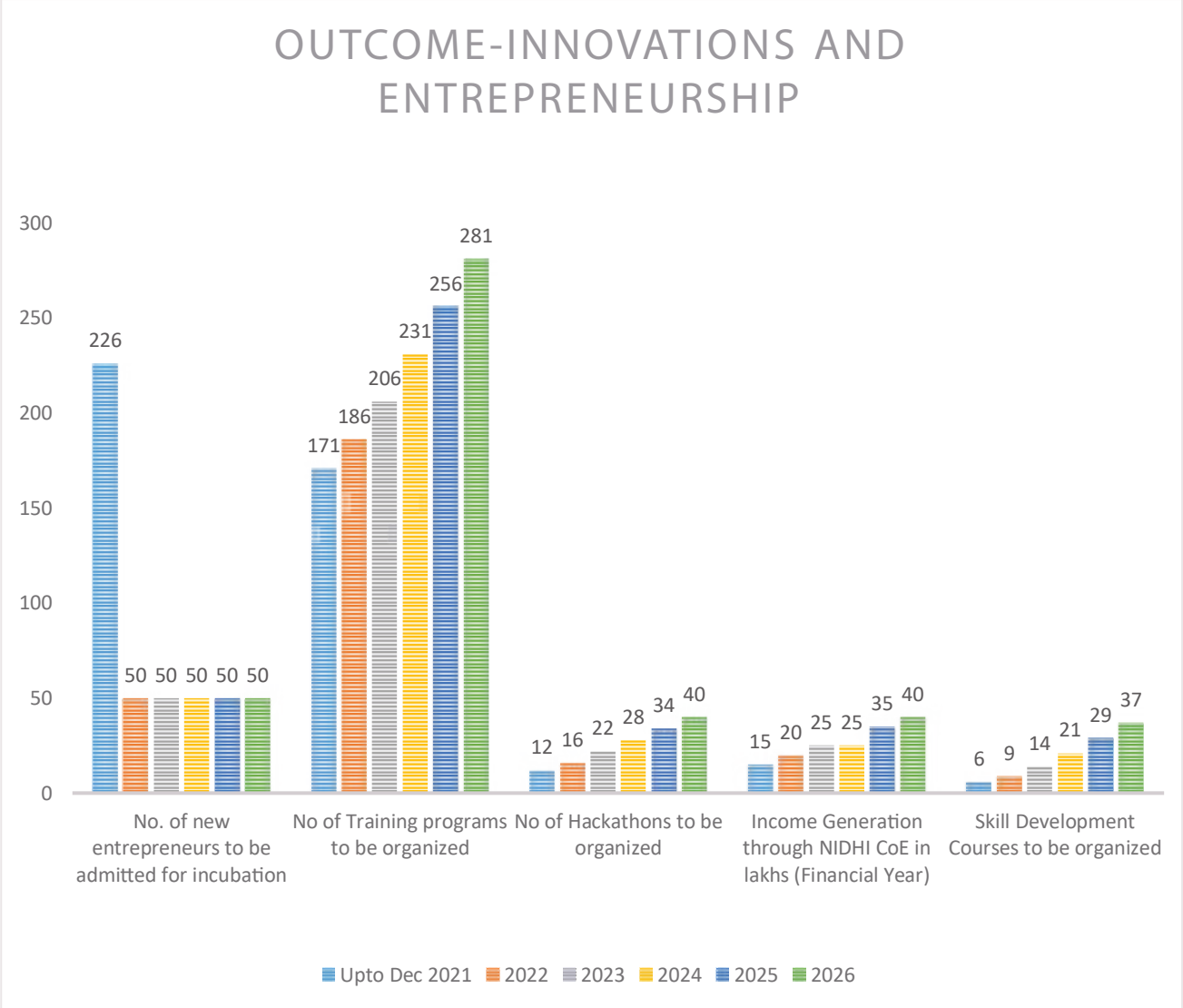
The Vel Tech TBI Ecosystem is rich in diversity with startups {Student & Alumni and external}, mentors, investors (Angel and VC’s), Trainers, thought leaders in various areas, people from industry bodies, corporate MD’s, CXO’s, People who assist in company formation (CS Professionals), Chartered Accountants, Industry professionals, various service providers, Lawyers, Technologists, Domain experts in various areas like Retail, E-commerce, Finance, Insurance, Product building and scaling, Manufacturing, Business Plan experts, Pitching to investors etc.

It is envisioned that the activities of TBI would have a profound influence on young engineering minds and transform them into employees with a positive influence on employment generation on a larger scale in the next 5 years of the strategic plan.



Outcome	Up to Dec 2021	2022	2023	2024	2025	2026
No. of new entrepreneurs to be admitted for incubation	226	50	50	50	50	50
No of Training programs to be organized	171	186	206	231	256	281

Outcome	Up to Dec 2021	2022	2023	2024	2025	2026
No of Hackathons to be organized	12	16	22	28	34	40
Income generation through NIDHI CoE in lakhs (Financial Year)	15.00	20.00	25.00	25.00	35.00	40.00
Skill Development Courses to be organized	6	9	14	21	29	37

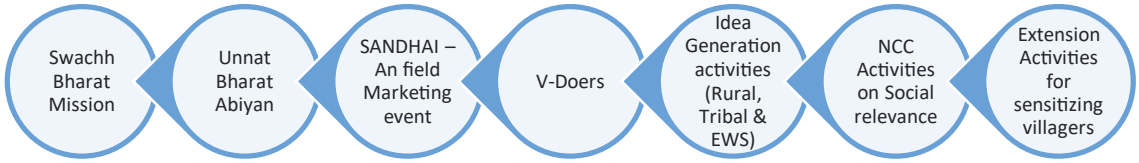


Outcome of Innovations and Entrepreneurship

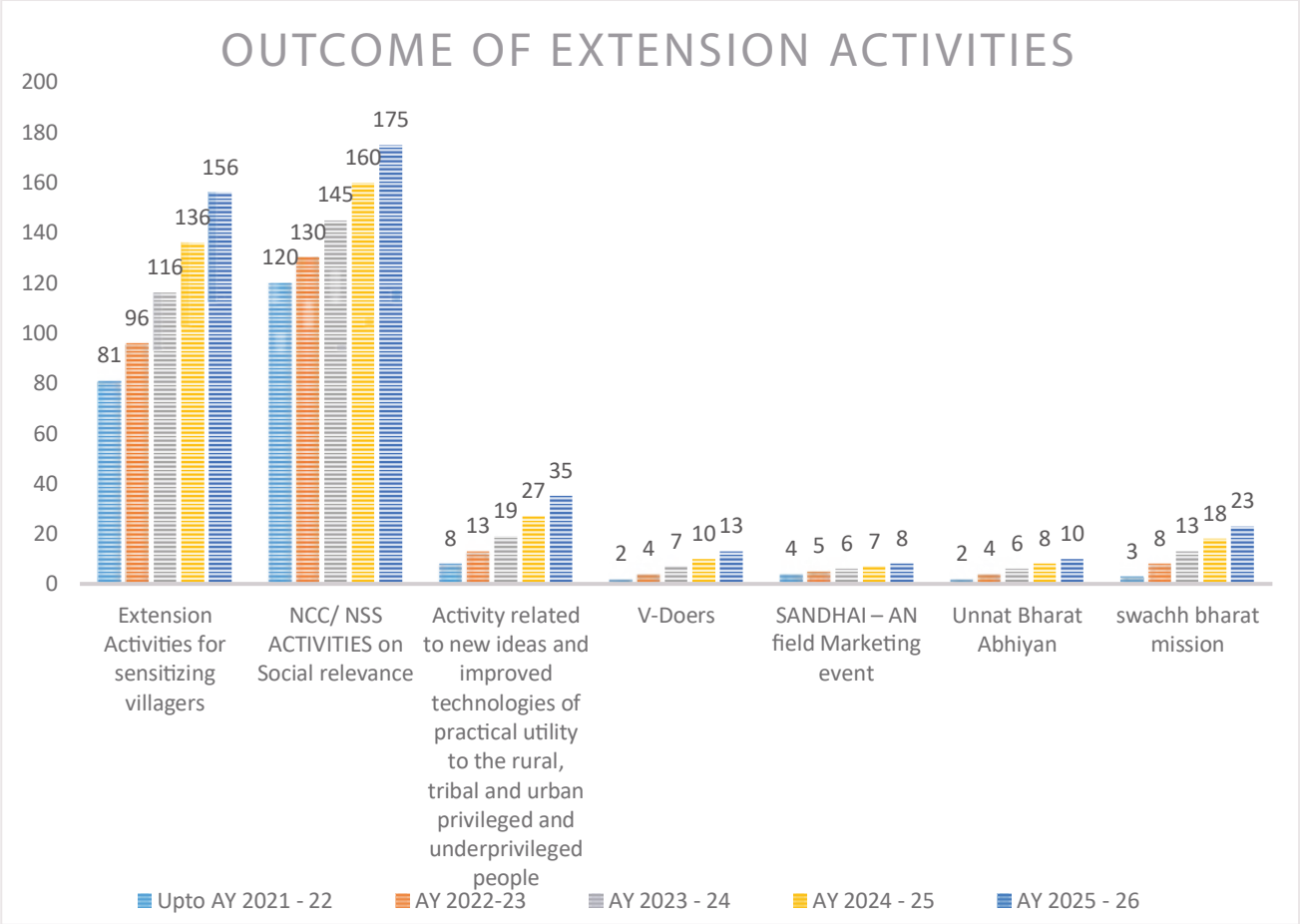
Extension Activities

Learning activities have a visible element for developing sensitivities towards community issues, gender disparities, social inequity etc. and in inculcating values and commitment to the society. Affiliation and interaction with groups or individuals who have an interest in the activities of the institution and the ability to influence the actions, decisions, policies, practices or goals of the organization lead to mutual benefit to both the parties. The processes and strategies inherent in such activities relevantly sensitize students to the social issues and contexts. Sustainable practices of the institution leading to superior performance results in successful outcomes in terms of generating knowledge useful for the learner as well as the community.

Extension also is the aspect of education which emphasizes community services. These are often integrated with curricula as extended opportunities, intended to help, serve, reflect and learn. The curriculum-extension interface has an educational value, especially in rural India.



Outcome	Up to AY 2021 - 22	AY 2022 - 23	AY 2023 - 24	AY 2024 - 25	AY 2025 - 26
Extension Activities for sensitizing villagers	81	96	116	136	156
NCC/ NSS Activities on Social relevance	120	130	145	160	175
Activity related to new ideas and improved technologies of practical utility to the rural, tribal and urban privileged and underprivileged people	8	13	19	27	35
V-Doers	2	4	7	10	13
SANDHAI–AN field Marketing event	4	5	6	7	8
Unnat Bharat Abhiyan	2	4	6	8	10
Swachh Bharat Mission	3	8	13	18	23



Outcome of Extension Activities

Human Resources and Infra Structure Development

The Institution is very keen on improving Human resources by recruiting highly qualified faculty at different levels such as Assistant Professors, Associate Professors, and Professors. At Present 45% of faculty in Vel Tech have Ph.D. qualified faculty and in the next five years, it will increase to 80%. The Institution would also focus on increasing the intake of faculty with Ph.D. and recruiting faculty at a senior level – Professors and Associate Professors from diverse and global background to ensure that the faculty blends in world-class curriculum and pedagogy. The institution also takes necessary steps on faculty development and retention strategy to harness its talent.

Keeping in mind, the significance of having a strong infrastructure that supports the innovative teaching and learning environment. formal and informal settings and to foster a new culture of learning, initiatives are taken to bring forth flipped classrooms, technology-enabled classrooms, etc. to attract students.

A state-of-the-art library/knowledge management system would focus on developing collaborative thinking spaces which would facilitate outside-the-box thinking and provide impetus to innovation.

Enhancement of faculty performance and visibility

1. Improving the qualification of existing faculty members by deputing them for Postdoctoral Fellowships / Doctoral programs
2. Recruiting highly qualified faculty members through Faculty Selection Committee Interview process
3. Imparting training to faculty members through participation in industrial training,STTPs, FDPs, workshops, seminars, refresher courses, etc.
4. Encouraging faculty to participate in various academic and professional activities (outside Vel Tech) for better visibility and recognition.
5. Deployment of 170 International visiting faculty members
6. Maintenance of 1:10 Faculty-Student (FSR) Ratio

Industry Partnerships & Placements

Industry Partnerships

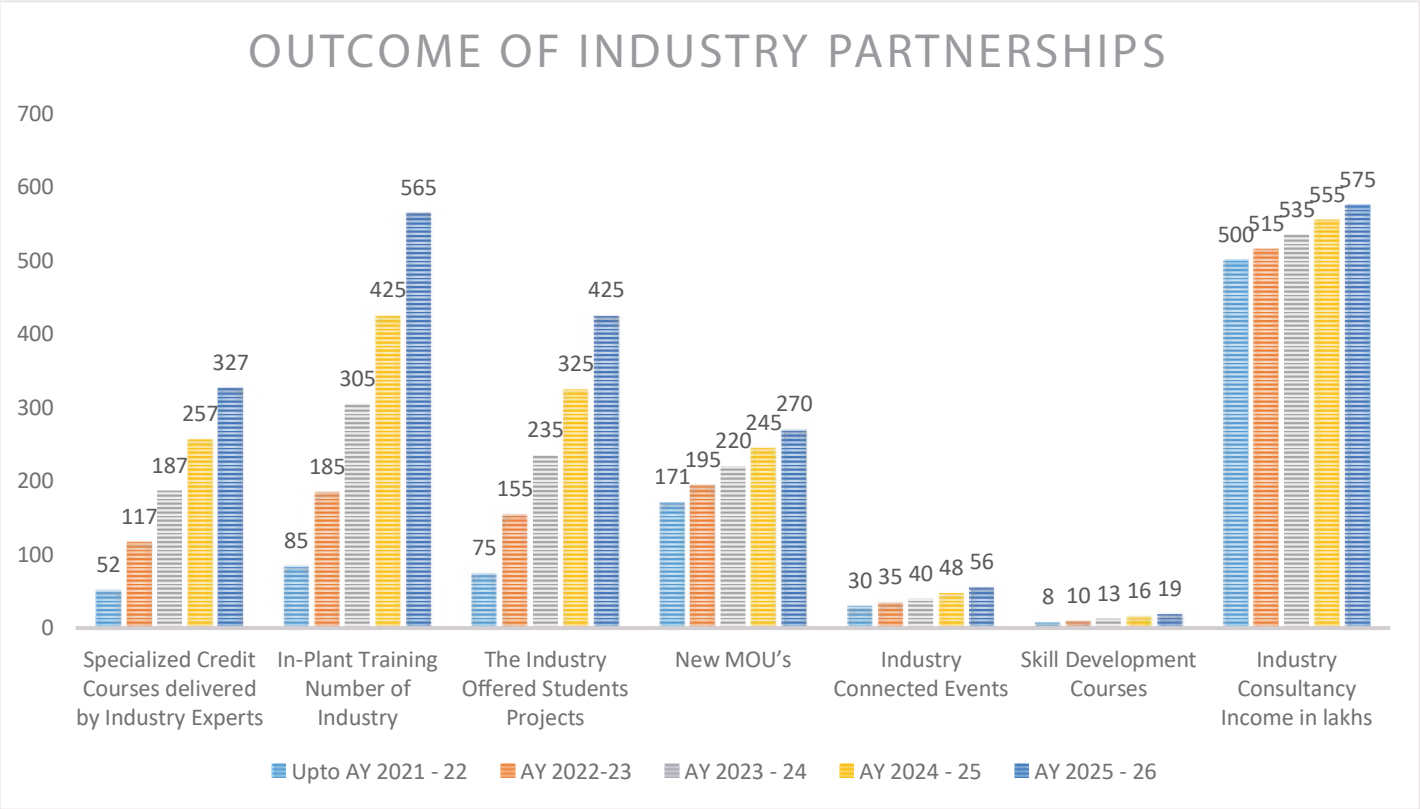
Vel Tech Industry relations a team of dedicated faculty members works towards bringing various activities/Partnerships from industry. Vel Tech has a strong Institution-Industry Cell. This office has established Interactions with more than 3119 Industries / Institutes / Organizations and has 178 MoU Signed (45 MoU's are Functional last five years) organizations for various Academic and Research Activities such as Joint Degree Programmes, In-Plant Trainings, Internships, Projects, R&D, Consultancy, Industry Recommended Electives, Curriculum Updates, Corporate Talk, Corporate Tour, Facility Creations, Value Added Courses etc. An inclusive practice of Vel Tech Industry Relations is the Industry-Institution Interaction, Partnership, and Collaboration.

Contribution of Vel Tech Industry Relations

- Makes available the updated database and profile of the companies (Large industries / MNCs /SMEs) and helps each student analyze and choose the company of his specialization/interest for In-Plant Training / Student Projects.
- Facilitates in curriculum improvement by way of periodical feedback and involving industry experts from the industries.
- Organize events such as Hackathon / VISAI / International Conference etc. to inculcate a culture of product innovation and a mindset of problem solving.
- Work towards continuous improvement of faculty members by way of Faculty Training / Research and Consultancy / Training of employees in Industries.
- Setting up Centre of excellence Facilities in collaboration with Government & Industries to promote Research Activities / Incubation Startups / Skill Development Programme (ASDC) etc.

Outcome of Industry Partnerships

S.No	Outcome	Up to AY 2021 - 22	AY 2022 - 23	AY 2023 - 24	AY 2024 - 25	AY 2025 - 26
1	Specialized Credit Courses delivered by Industry Experts	52	117	187	257	327
2	In-Plant Training Number of Industry	85	185	305	425	565
3	The Industry Offered Students Projects	75	155	235	325	425
4	New MOU's	171	195	220	245	270
5	Industry Connected Events	30	35	40	48	56
6	Skill Development Courses	8	10	13	16	19
7	Industry Consultancy Income in lakhs	500	515	535	555	575

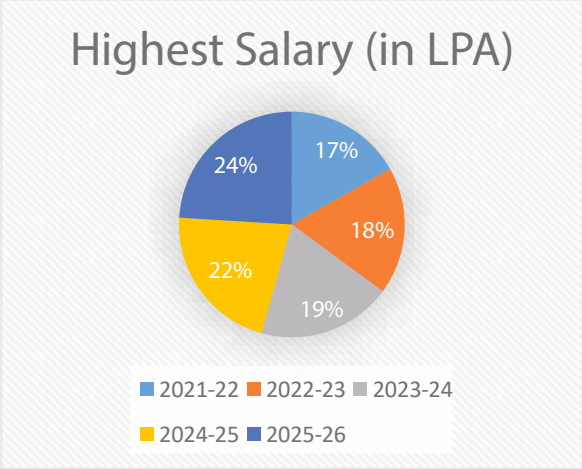


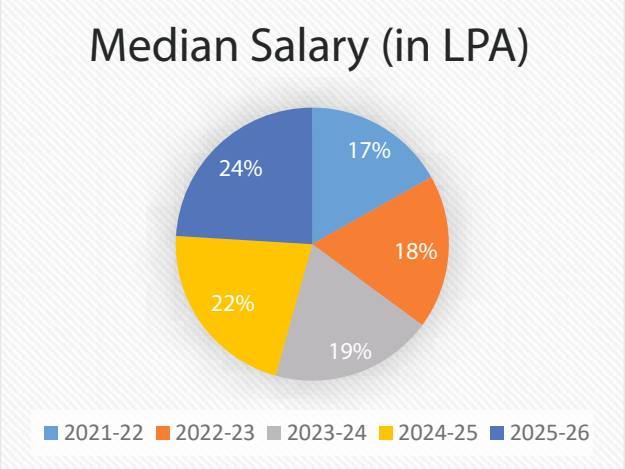
Training & Placement

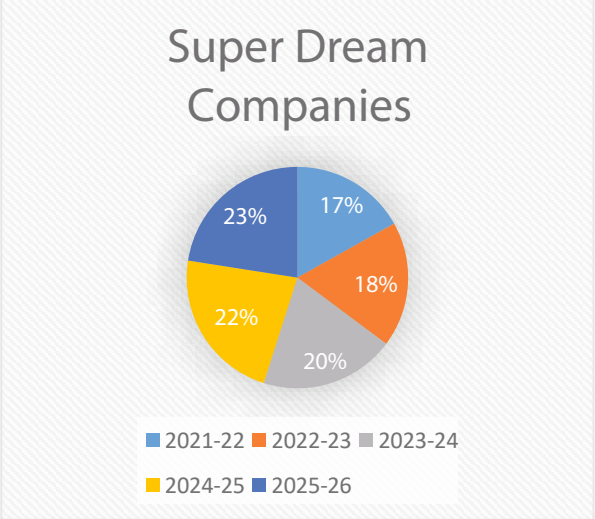
One of the performance parameters that reflect the impact of this institution is providing all required training and coaching for securing employment in the leading companies. Vel Tech has been doing it excellently by having contact with the reputed IT /ITES companies including Audi, Bosch, Caterpillar, HP, MRF, HCL, Rane, Siemens, SAP, TAFE, Titans, TCS, Quest, and many others.

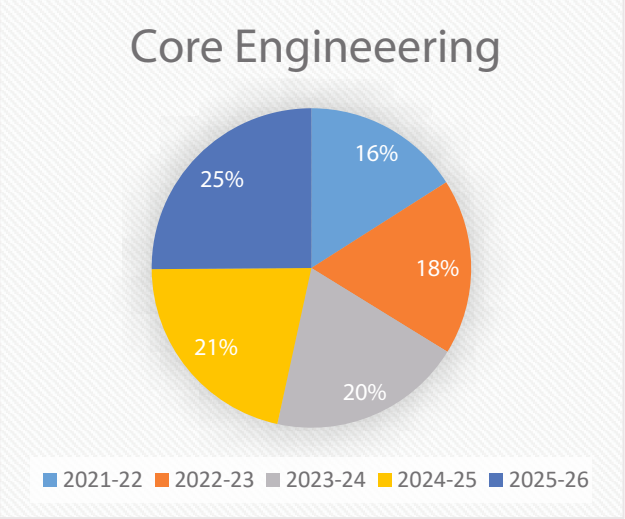
It is hoped that the Institution which is present, offering 80% of employability to the students will be able to provide 150% of employability in the next 5 years under the strategic plan. Some of the key targets of achievements intended in the 5-year Strategic plan are summarized hereunder:

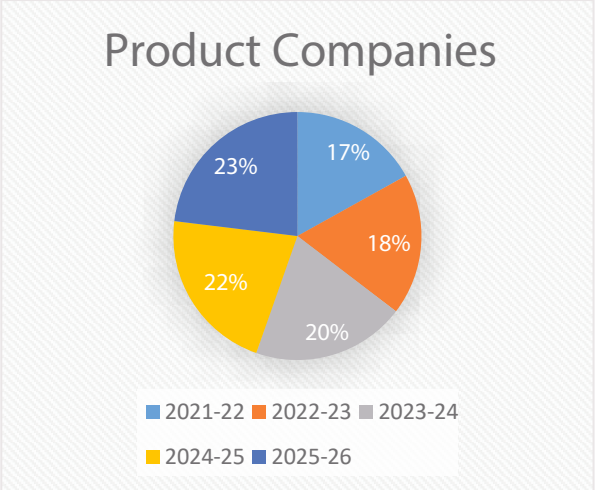
S.No	Outcome	2021-22	2022-23	2023-24	2024-25	2025-26
1	No. of Training Activities to be Organized	27	32	37	42	47
2	Percentage of Placement Offers	138	143	148	153	158
3	Highest Salary	35 LPA	38 LPA	40 LPA	45 LPA	50 LPA
4	Median Salary	4.0 LPA	4.4 LPA	4.8 LPA	5.2 LPA	6.0 LPA
5	Super Dream Companies	12	13	14	16	16
6	Core Engineering	35	39	43	47	55
7	Product Companies	55	60	65	70	75
8	IT/ITES Companies	88	94	102	112	120
9	Others	26	28	30	32	34
10	Total Recruiters	216	234	254	277	300










Product Companies
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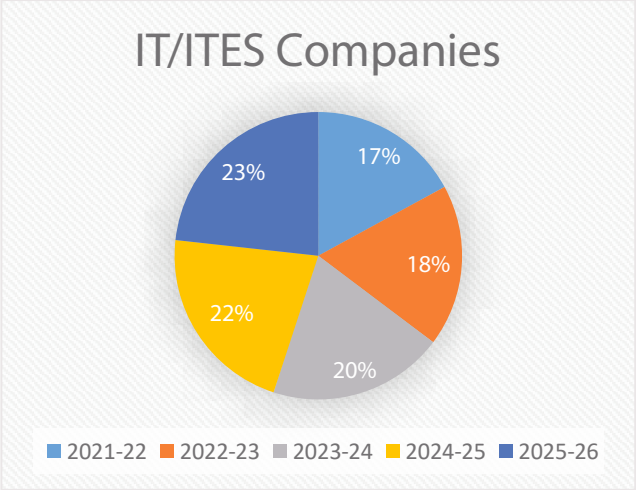
IT/ITES Companies
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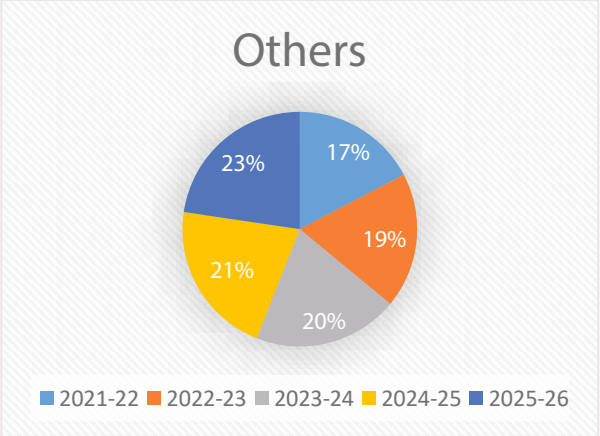
Others
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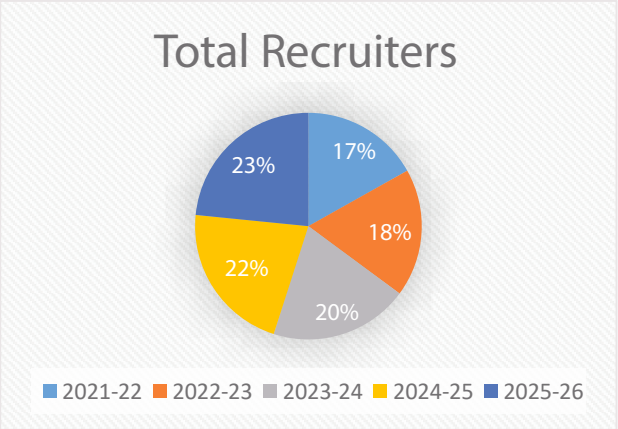
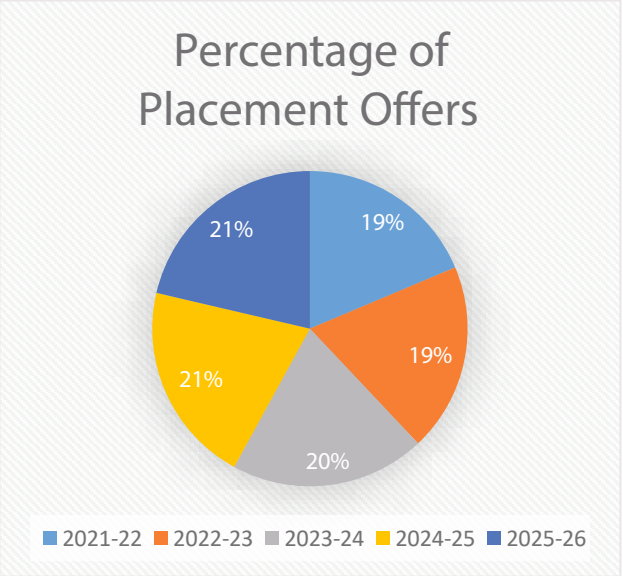

Total Recruiters
17%
18%
20%
22%
23%
2021-22
2022-23
2023-24
2024-25
2025-26


No. of Training Activities to be Organized
15%
17%
20%
23%
25%
2021-22
2022-23
2023-24
2024-25
2025-26


Percentage of Placement Offers
19%
19%
20%
21%
21%
2021-22
2022-23
2023-24
2024-25
2025-26

Internationalization

Vel Tech has given immense importance to the development of international partners from several countries such as Germany, Taiwan, USA, Canada, Singapore etc. in the process of strengthening the activities under the following perspectives:

- Student interdisciplinary instructional laboratories
- Joint Research projects like IC IMPACT, Indo Taiwan program
- Semester abroad programs
- International collaboration through broad-based MoUs
- Setting up joint laboratories like Vel Tech France col laboratory
- Enabling transformative teaching-learning methodologies like CDIO
- International competitions
- Faculty Exchange
- Student Exchange

Globalization and digitisation bring international knowledge and education to our doorstep. With the proverbial press of a button, our students have access to lectures from all corners of the globe. The international mobility of students and staff has grown immensely in recent decades. Students from all over the world study in Utrecht and international staff are part of our university community. Their knowledge and cultural backgrounds enrich our education and research and their different perspectives add value to the academic debate.

By systematically organizing these activities in a well-planned manner, it is hoped that in the next 5 years, Vel Tech would have more than 170 faculty members from international institutions apart from 5% of the international student strength.

The targets of the Institution under the Strategic Plan 2021 -2026 are summed up as detailed below:

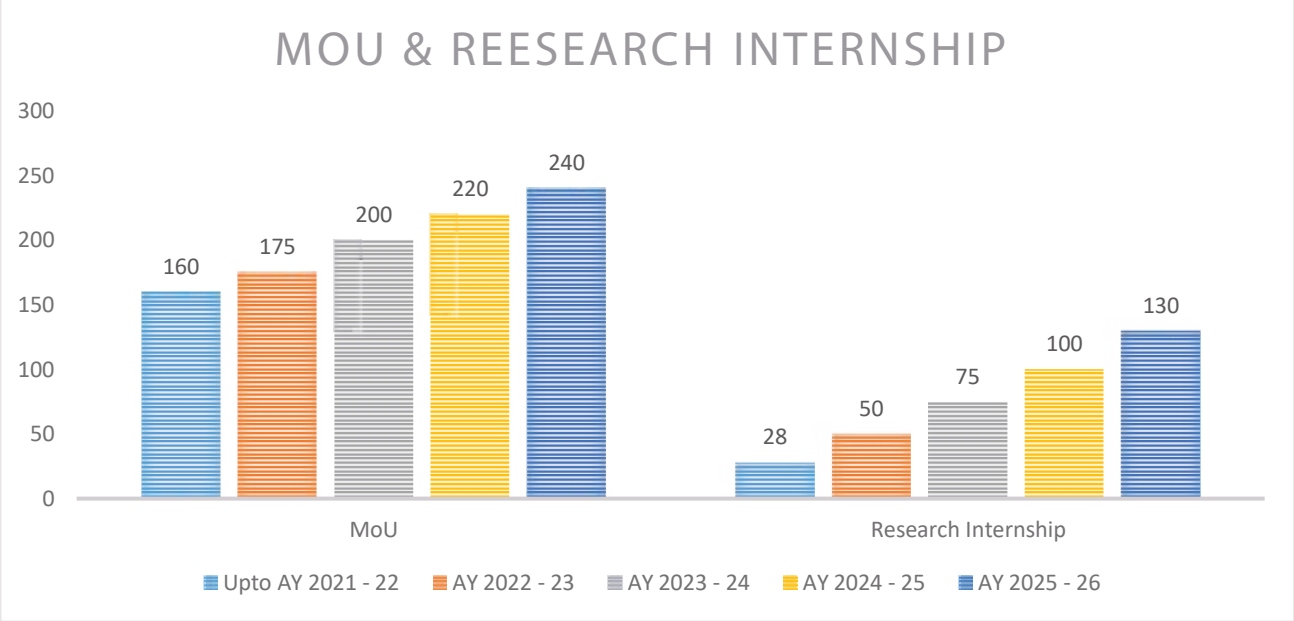
Expansion of international relations

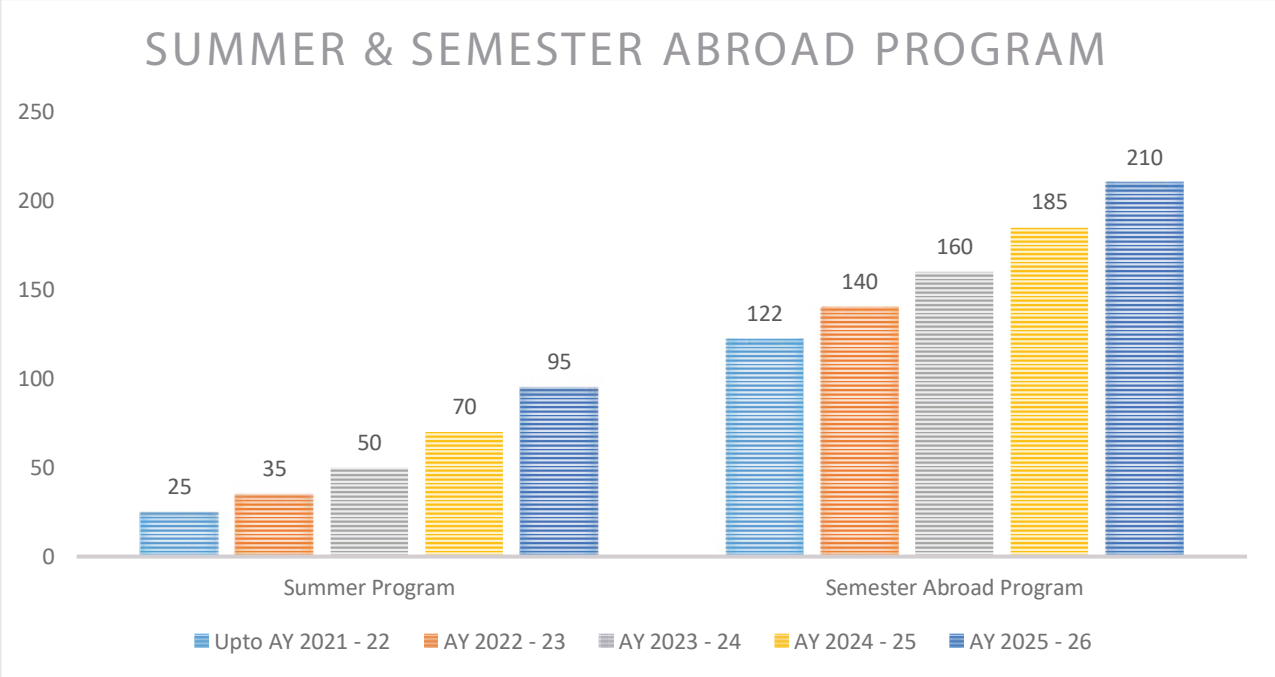
1. Frequent conduct of study abroad programs, internships at Universities / organizations internationally.
2. Attracting more international students
3. To facilitate interface /internships /projects and inviting foreign faculty/experts for long/short term assignments
4. Enhancing Institute collaborations with international institutions
5. Preparing for international level accreditation and ranking
6. Faculty exchange and student exchange
7. Masters Progression, Summer program
8. Joint research publication with international experts

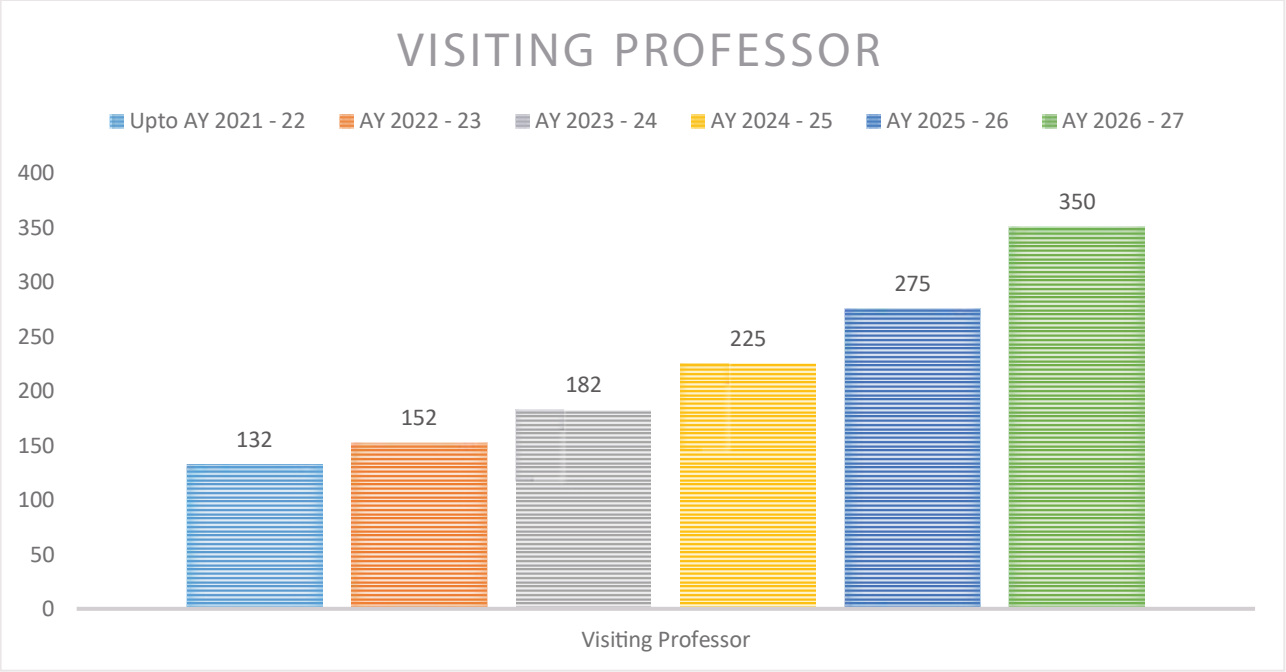
Progress in International relations would be tracked on the following parameters.

Sl.No.	Particulars	Up to AY 2021 - 22	AY 2022 - 23	AY 2023 - 24	AY 2024 - 25	AY 2025 - 26
1.	MoU	160	175	200	220	240
2.	Research Internship	28	50	75	100	130
3.	Summer Program	25	35	50	70	95
4.	Semester Abroad Program	122	140	160	185	210
5.	Visiting Professor	132	152	182	225	275
6.	Masters Progression	422	522	670	800	950
7.	3 + 2 Program	-	10	15	20	25
8.	2 + 2 Program		-	5	10	15
9.	1+1 Program		-	-	5	10

Sl.No.	Particulars	Up to AY 2021 - 22	AY 2022 - 23	AY 2023 - 24	AY 2024 - 25	AY 2025 - 26
10.	Faculty Outgoing	2	5	8	10	15
11.	International Academic Program	-	-	-	1	2
12.	Incoming International Student	88	100	115	130	150
13.	Abroad Project	122	150	180	225	275






VISITING PROFESSOR
Upto AY 2021 - 22
AY 2022 - 23
AY 2023 - 24
AY 2024 - 25
AY 2025 - 26
AY 2026 - 27
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50
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132
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275
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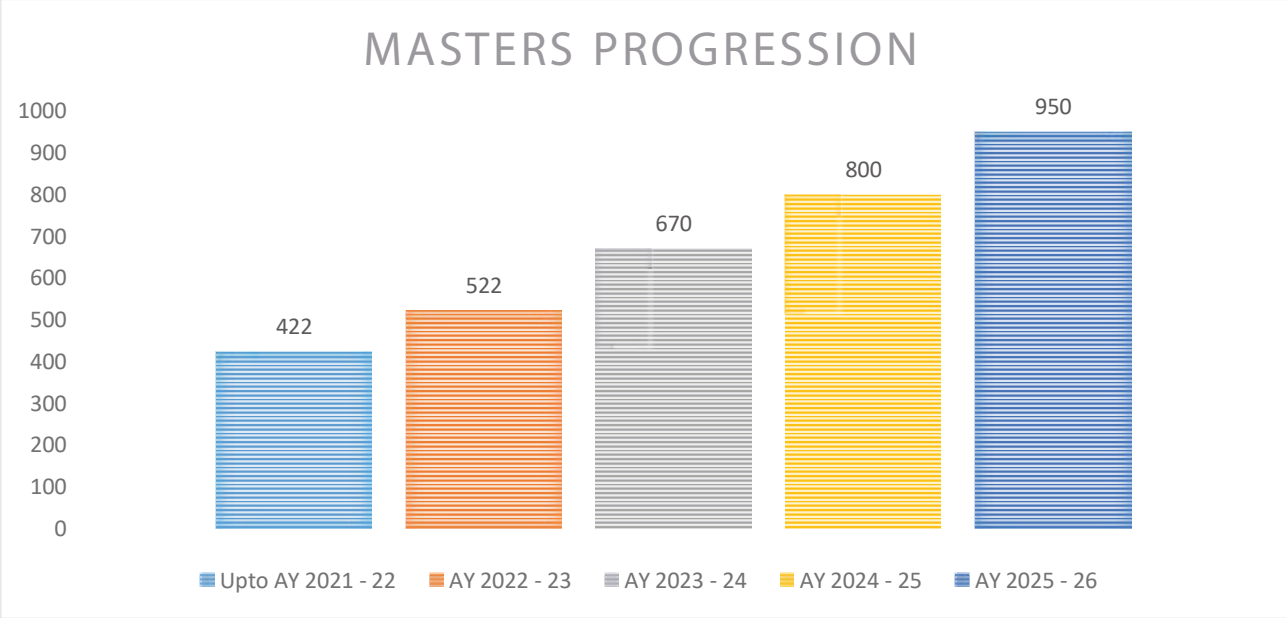
Visiting Professor


MASTERS PROGRESSION
1000
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800
700
600
500
400
300
200
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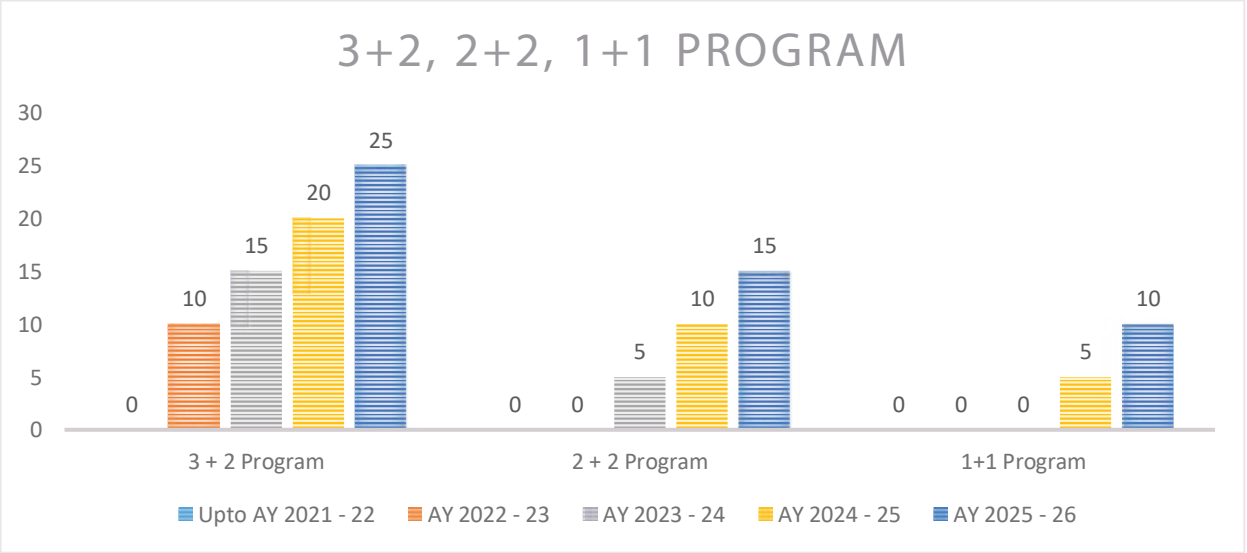
Upto AY 2021 - 22
AY 2022 - 23
AY 2023 - 24
AY 2024 - 25
AY 2025 - 26


3+2, 2+2, 1+1 PROGRAM
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25
20
15
10
5
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0
10
15
20
25
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0
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10
15
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0
5
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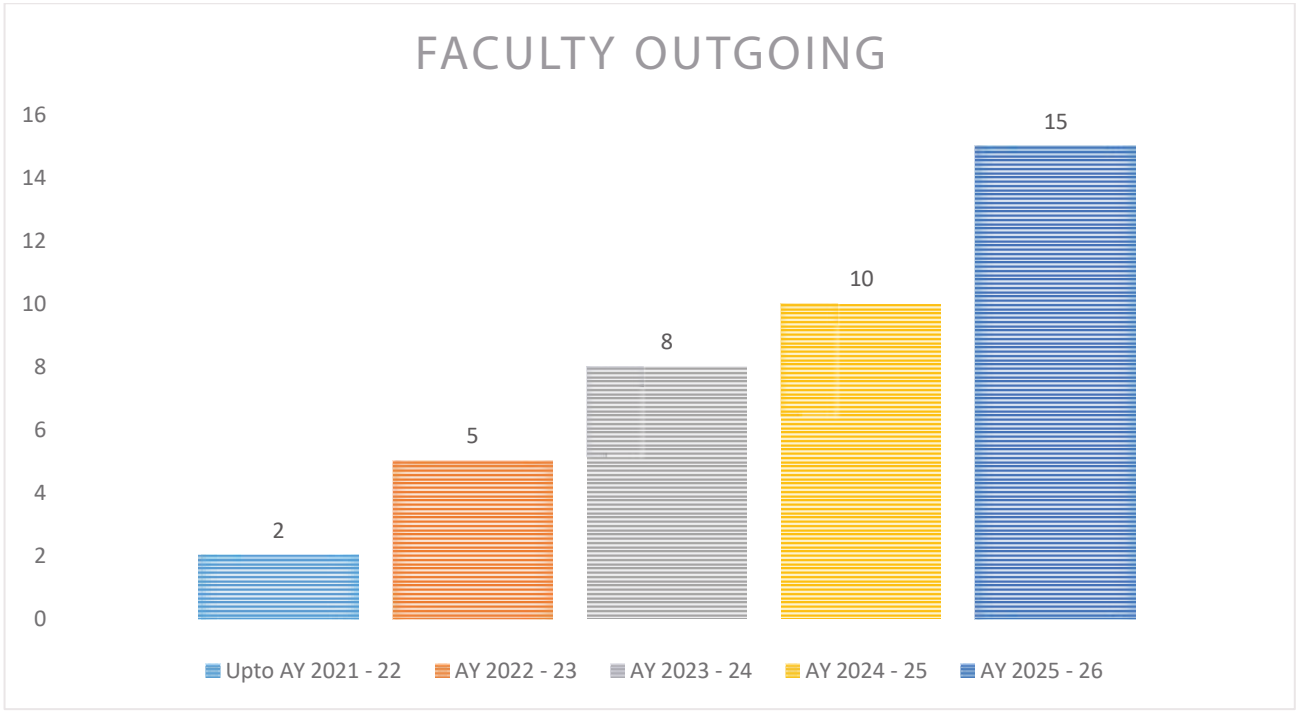
3 + 2 Program
2 + 2 Program
1+1 Program
Upto AY 2021 - 22
AY 2022 - 23
AY 2023 - 24
AY 2024 - 25
AY 2025 - 26


FACULTY OUTGOING
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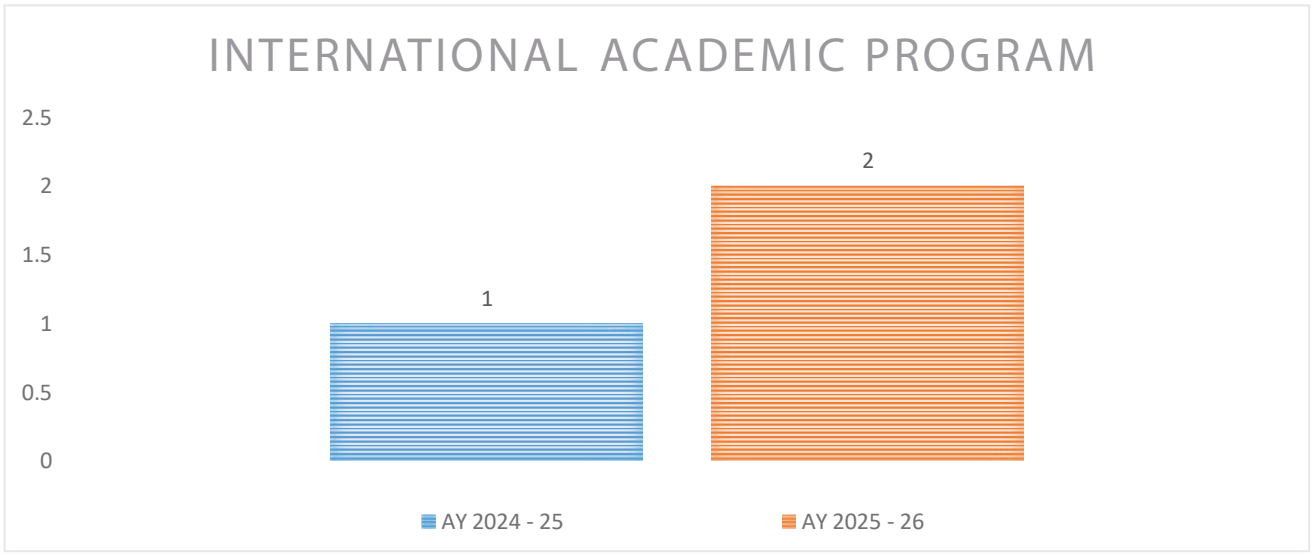
Upto AY 2021 - 22
AY 2022 - 23
AY 2023 - 24
AY 2024 - 25
AY 2025 - 26


INTERNATIONAL ACADEMIC PROGRAM
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1.5
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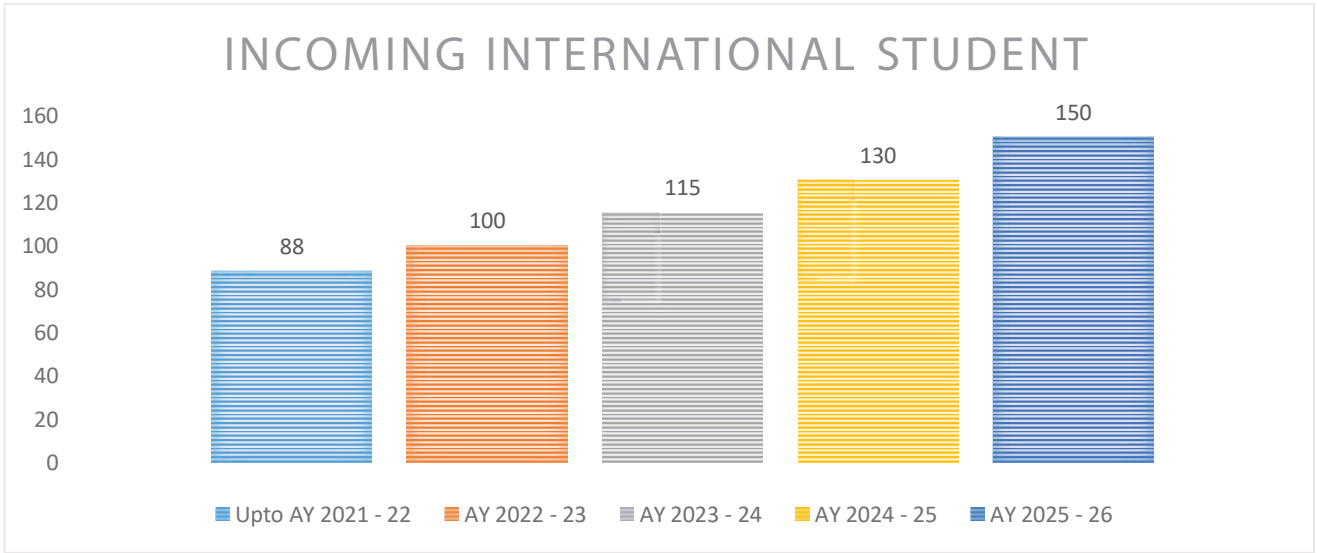
0
1
2
AY 2024 - 25
AY 2025 - 26


INCOMING INTERNATIONAL STUDENT
160
140
120
100
80
60
40
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88
100
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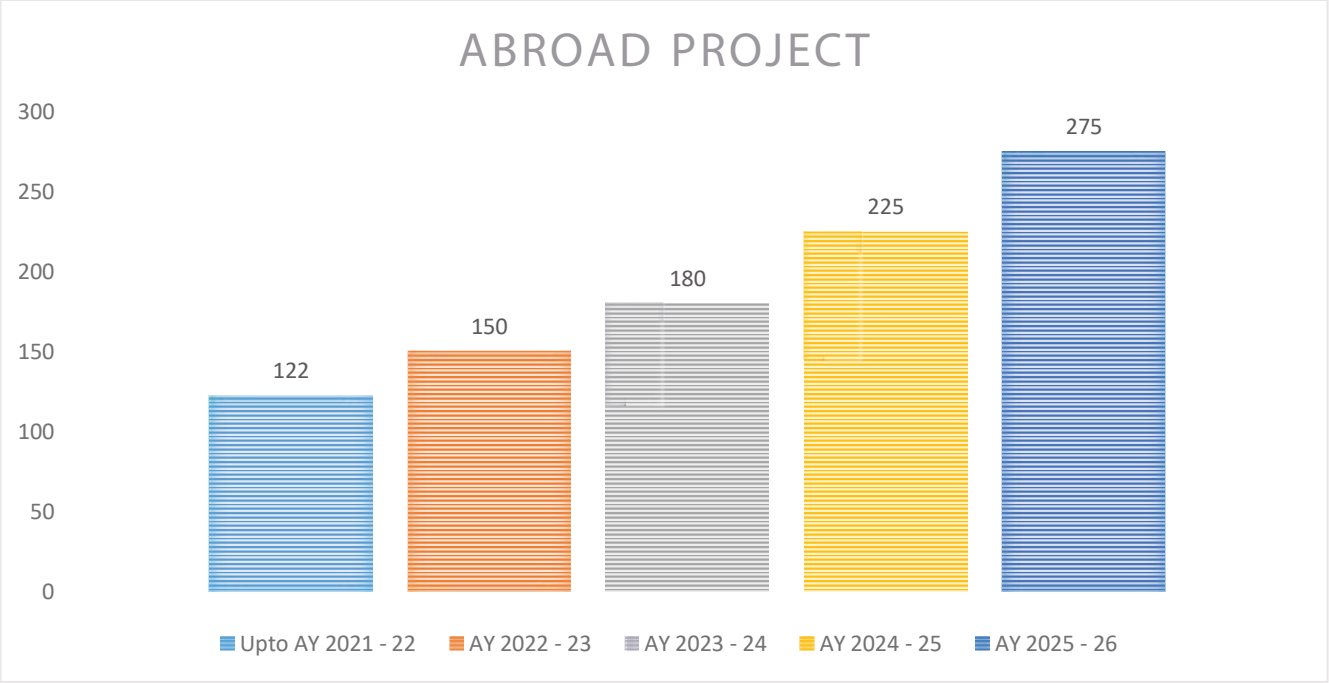
130
150
Upto AY 2021 - 22
AY 2022 - 23
AY 2023 - 24
AY 2024 - 25
AY 2025 - 26



Rankings and Recognitions

To Achieving excellence holistically by 2026 we are marching together to realize our dreams.

- NBA – Tier I Accreditation for all eligible UG Engineering programs by 2024
- NBA – Tier I Accreditation for the emerging PG Engineering programs by 2025
- ABET Accreditation for core Engineering programs by 2025
- NIRF – All India top 75 in Engineering category and top 100 in Overall & University category by 2025
- Top position in Times Higher Education (THE) Word University Ranking, Young University Rankings and Asia University Rankings
- Top position in Quacquarelli Symonds (QS) World University Rankings and Asia University Rankings
- QS Stars University Rating by 2024.

STRATEGIC PLAN 2021 - 2026

No.42, Avadi - Vel Tech Road, Vel Nagar,
Avadi, Chennai - 600 062

www.veltech.edu.in

1800 212 7669