

# Strategic Plan: 2021-26



ESTD : 1946

## The National Institute of Engineering

## Strategic Plan 2021-26

This Strategic Plan: 2021–2026 of NIE has been drawn up through a process of consensus building. Even while this process was on, implementation of several elements of the plan has been taken up. The targets of the Strategic Plan and the vision underlying the plan are presented in the following sections.

### 1.1 Historical Background

NIE was founded in 1946 by visionary engineers – Sri S Ramaswamy, Sri D V Narasimha Rao, Sri T Rama Rao – with the support of 13 other eminent persons. The first batch of 86 students attended classes in a rustic room with thatched roof in Lakshmipuram. Later, the classes were held in a temporary shed in Sharada Vilas High School campus. With the untiring efforts of the founders and philanthropists, in 1950 NIE had its own classrooms and workshops on a sprawling 6-acre plot. Also, it became the second engineering college in the erstwhile Mysore state, and the first in Mysore city; thereby earning the sobriquet, “the pride of Mysore”. It was conferred the status of “private-aided Institution” under grant-in-aid code of the state government.

### 1.2: NIE Today

NIE today stands at the 39<sup>th</sup> position among India’s top 110 Engineering Colleges that include IITs and NITs as per the survey conducted by *Outlook* magazine (September 2020).

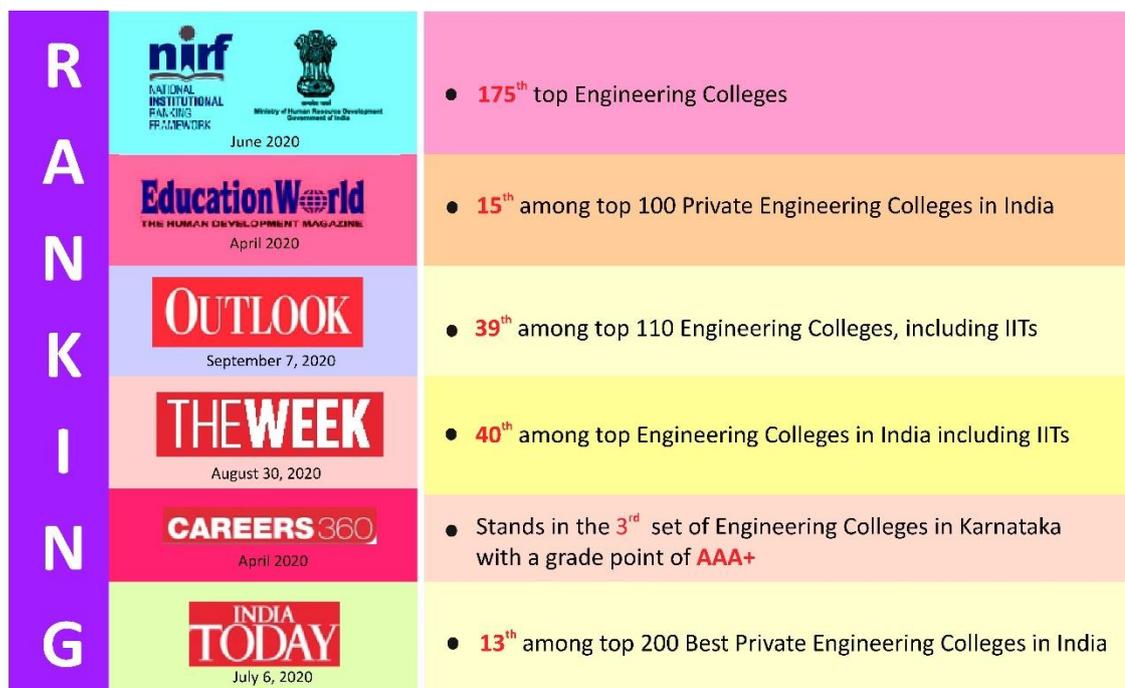


Figure 1: NIE rankings - 2020

NIE has well qualified and highly dedicated faculty members and has contemporary infrastructure. The Board of Directors of NIE has been always promoting continuous improvement in delivery of technical education. The concerted efforts of stakeholders at NIE made it get autonomous status, and grants under prestigious TEQIP I, II & III (Technical Education Quality Improvement Programme of World Bank-MHRD) NIE has been granted permanent affiliation by Visvesvaraya Technological University (VTU), Belagavi.

### **1.3: Programmes Offered**

NIE is offering Undergraduate, Post-graduate and Research programmes in several engineering disciplines. They are:

#### **1.3.1: Undergraduate Programmes (B.E.)**

- Civil Engineering (1950, 120)
- Mechanical Engineering (1958, 180)
- Electrical & Electronics Engineering (1958, 120)
- Electronics & Communication Engineering (1971, 120)
- Industrial & Production Engineering (1981, 60)
- Computer Science & Engineering (1983, 120)
- Information Science & Engineering (1999, 120)
- Civil Engineering – Evening Programme (1974, 60)

#### **1.3.2: Postgraduate Programmes**

- Power Systems (1971, 18)
- Hydraulics (1971, 18)
- Production Engineering & System Technology (1987, 12)
- Computer Application in Industrial Drives (1996, 18)
- Information Technology (2002, 18)
- Industrial Automation & Robotics (2011, 18)
- Structural Engineering (2012, 18)
- Computer Network Engineering (2012, 24)
- Nano-Technology (2014, 24)
- Machine Design (2014, 24)
- Networking and Internet Engineering (2018, 18)
- Master of Computer Application (MCA) (1997, 60)

### 1.3.3: Research Programmes (M.Sc., Ph.D.)

- Civil Engineering (1981)
- Mechanical Engineering (1987)
- Electrical & Electronics Engineering (1987)
- Electronics & Communication engineering (2000)
- Industrial & Production Engineering (2000)
- Computer Science and Engineering (2012)
- Physics (2013)
- Chemistry (2013)
- Mathematics (2019)
- Nanotechnology (2020)

### 1.3.4: Centres of Excellence

- Centre for Research & Consultancy
- NIE-Eicher Centre for Automobile Technology
- Centre for Renewable Energy & Sustainable Technologies
- Centre for Materials Research
- Centre for Nano-Technology
- Centre for Energy Management & Test Systems for Electrical Apparatus
- Building Fire Research Centre
- Water Resources Centre
- Centre for Simulation Machine Intelligence and Learning
- Centre for Research in Robotics & Control
- Centre for Automation Technology
- Composite Material Fabrication and Testing Laboratory
- NIE Siemens Technical Centre
- Centre for Workplace Safety and Health
- Centre for Training in Advanced Technology
- Centre for Conservation of Heritage Structures

NIE is a recognized QIP Research Centre of VTU and AICTE.

#### **1.4: Vision, Mission and Values**

We have recognized the need for excellence to continuously improve our academic programmes and laboratory infrastructure on par with industry requirements. We started introspecting about our core purpose in terms of why we exist, what are our strengths and weaknesses and what are the emerging opportunities during the visioning exercise carried out during the year 2017. This exercise involved multiple deliberations among the governing council members, the management and faculty members of the institution. The vision exercise identified three core areas, which required concerted efforts and focus in order to realize the vision of NIE as a global leader in technical education, namely,

- Academic excellence as measured by faculty of international repute
- Financial independence and stability
- Socially relevant in terms of addressing and providing solutions to contemporary challenges faced by India and the global community.

The outcome of the visioning exercise was the articulation and spread of our vision, mission and core values which are stated as:

##### **1.4.1: Our Vision**

*NIE will be a globally acknowledged institution providing value-based technical and scientific education through best-in-class talent*

##### **1.4.2: Our Mission**

- To impart state-of-the-art engineering education through strong theoretical foundations and practical training to students in their choice of specialization
- To create new knowledge through innovation and cutting-edge research in science and engineering
- To provide a platform for inclusiveness and collaboration by following ethical and responsible engineering practices for long-term interaction with academia and industry
- To encourage entrepreneurship and to develop sustainable technologies for the benefit of global society.

##### **1.4.3: Our Values**

**Integrity and Accountability**

- *Integrity refers to honesty or trustworthiness in the discharge of duties and responsibilities*
- *Accountability refers to the obligation on the part of staff and students to report on the usage of resources and to meet stated performance objectives*

**Cooperation and Collaboration**

- *Cooperation refers to sharing of information and resources to help each other to do a better job*
- *Collaboration refers to building a strong relationship with partners like industry, institution, R &D organisations*

**Professionalism and Dedication**

- *Professionalism refers to adherence to courtesy, honesty and responsibility when dealing with students, colleagues and stakeholders, in general*
- *Dedication refers to complete and wholehearted act to achieve set purposes and goals*

**Intellectual Excellence and Innovation**

- *Intellectual excellence refers to ability of an individual to perform, achieve, and/or excel in scholastic activities, and to participate in enrichment programmes*
- *Innovation refers to building strength in the area of research interest other than core functional areas with innovative ideas and methodology*

**Social and Moral Responsibility**

- *Social and moral responsibility refers to the required understanding of the consequences of one's actions and the impact of these actions on others, and emphasizes character and moral development in the institution.*

**1.5 Strategic Plan 2021-2026**

The visioning exercise enabled the articulation of the institutional vision and provided the base data to chalk out the strategic plan for NIE. The visioning exercise, in hind sight, was a precursor to the success of NIE as one of the beneficiaries of TEQIP. Thanks to TEQIP, the institution was able to take major steps in strengthening the undergraduate programmes by modernizing existing laboratories as well as by setting up several state-of-the-art Centers of Excellence.

The year 2017 was a watershed year for NIE, which witnessed a series of meetings, brainstorming among faculty and interactions with the industry, with the purpose of assessing our Strengths, Weaknesses, Opportunities and Challenges (SWOC). We took the support of a professional consulting group to conduct an assessment of SWOC, both at the institute level and at the department levels. The reasons for bringing in external experts were two-fold; firstly to ensure the application of sound methodology and second was to seek unbiased assessment.

The SWOC exercise output was documented and analyzed for patterns to arrive at an institutional level SWOC picture. The training needs of individual faculty and technical staff were identified keeping in mind the individual's interests and also the NIE's focus on key domain areas in terms of undergraduate, post-graduate and Ph.D. programmes and research and development. The identification of domain focus areas was based on both internal strength and external opportunity.

#### **1.5.1: Intellectual Infrastructure**

We took a conscious decision to promote life-long training for all the teaching and technical staff of the institute to ensure that there was no laxity in keeping pace with global standards of technical education. We identified gaps in training and evolved an action plan with definite time lines to ensure adequate training to the needy. Research and consultancy is viewed as a means of positively impacting faculty development, publications and IP creation. The Strategic Plan for research and consultancy is designed to drive the future efforts by making faculty aware of shared interests and opportunities, and available support from government, industry, private foundations and individuals.

The Institute decided to take several concrete steps in order to strengthen collaboration with industry. In the Strategic Plan for 2021-2026, the Institute identified the following focus areas under Intellectual Infrastructure:

- *Faculty development*
- *Research, publications and IP creation*
- *Pedagogy*
- *Students' development*
- *Industry and society linkages*

### **1.5.2: Courses and Service Offerings**

We chalked out the strategy to tie-up with industries and institutes of repute both in India and abroad. Collaboration with international organizations not only enhances our core strengths, but also provides the benchmark to assess our own strengths and weaknesses.

SWOC analysis conducted earlier enabled us to identify a number of specific initiatives focusing on the following areas:

- *Doctoral & Master's level programmes*
- *New disciplines / areas*
- *Collaborative approaches with other institutions*
- *Multi-disciplinary areas*
- *Curriculum design and academics*

### **1.5.3: Institution Building**

Four separate and interrelated areas of focus were identified, which were critical for the Institute's financial health and growth. These areas are shaped by and underlie all other elements of Strategic Plan:

- *Leadership & governance practices*
- *Building financial strength*
- *Alumni network*
- *Physical infrastructure*

With substantial scaling up of activities, NIE laid emphasis on improving processes, organizational accountability and functional transparency. We decided to bring in decentralization of functional areas in order to promote second level leadership and be response to changes.

## The Strategic Plan

### 2.1 Executive Summary

The broad goals of Strategic Plan: 2021-26 are an affirmation of NIE's commitment to excellence in technical education and research. The Strategic Plan consequently focuses on these core themes. The Strategic Plan enunciates NIE's aim of being recognised as a global leader for value based technical & scientific education.

India's economic growth, the need to scale up technological education, the roles of innovation and IPR in the nation's economic trajectory and sustainability issues such as climate change have set the national context for the development of Strategic Plan: 2021-26. World Economic Forum indicates that India must become a centre for innovation and reap the social and economic benefit from accelerating progress in increasing the readiness of its people and firms to adopt new technology.

It is this unrelenting march of technological progress that India faces in its immediate future. Forbes estimates that, by 2022, there will be more than 100 million new entrants into the job market. This would mean initiating a new system of employment that creates nearly 9 million jobs a year, which is a rate of increase the likes of which has never been seen in a country that will be the third largest economy in the world in the next decade.

Forbes says by 2026, 64 % of India's population will be in the 15-60 age group. In other words, in the next 8 years our country will have an immense workforce ready for the millions of jobs that the world will need. However, the greatest hurdle that faces us is the lack of skill and training that this workforce actually has. The fact that our workforce is hesitant to learn and unwilling to adapt to these revolutionary changes makes it doubly difficult to be progressive.

This is the challenge facing industry & academia alike. It is imperative for students and graduates to understand that being trained in obsolete technology will not get those jobs. It falls on the educators in the country to prepare the students to be more adept at learning. The students need a better blend of theoretical and practical teaching. More the students use their hands, the better their chances of learning the technology. Research, innovation and development in technology all have their roots in an innate understanding of the basics which can only be mastered by the students working with the technology rather than just being taught how to use it.

This Strategic Plan: 2021-26 of NIE has been drawn up, through a process of consensus building. It seeks to leverage the strengths that NIE has developed over the past seven decades and to build upon them and acquire or develop new strengths. In particular, the Strategic Plan proposes to nurture the large groups of faculty working on transformational technologies that have the potential to address the societal challenges faced in India today—specifically in areas such as water, energy, housing, education & employment. It outlines steps to increase the quality and quantity of research output through an increase in research intensity, faculty strength, Ph.D. student enrolment, infrastructure, engagement with industry and international collaborations. The Strategic Plan envisages a doubling in sponsored research levels and a focus on lifecycle management of intellectual property.

It envisions the creation of a rich incubation ecosystem that will enable entrepreneurship and value creation.

**Strategic Plan: 2021-26 identifies the following broad targets:**

- Become a leading technological institution, ranked in the national top 100 in all disciplines
- Become a renowned technological institution for postgraduate education and research as the flagship for undergraduate programme
- Persist in its upward trajectory as a creator of new and innovative technologies for industrial and national needs
- Continue to incubate successful start-ups creating innovative products and business models using the knowledge and technologies developed by the Institute
- Provide an invigorating work environment for faculty and staff, where merit and hard work are recognised and rewarded
- Be a model college campus in terms of sustainability, usage of energy and water and recycling of materials
- Be an institute that is sought for international collaborations leading to exchange of students and faculty and for joint degree programmes
- Intensify the involvement of alumni in all aspects of the Institute's development—interacting with students, mentoring incubatees, contributing resources towards enhancing the facilities and quality of

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education, collaborating with faculty members in research and development.

## 2.2. Goals

The broad goals of Strategic Plan: 2021-26 are aligned with NIE's commitment to excellence in education and research, and the Plan is consequently focused on these core themes. The Strategic Plan enunciates NIE's objective of being recognised as a global leader in education and research. There are a number of international rankings of educational institutions. These draw up lists on the basis of different indicators such as research excellence, student preference and academic and employer surveys. NIE seeks to rise in those rankings whose parameters are in alignment with the institution's objectives. NIE aims to attract the brightest students from diverse backgrounds and offer them an excellent education. The Strategic Plan seeks to leverage the traditional strengths of NIE and to acquire or develop new strengths. In particular, it seeks to nurture large groups of faculty working on transformational technologies that have the potential to address the societal challenges faced in India today with regard to water, energy, housing, education, employment and the like. Industry and government funded research and development is a major component of this effort.

The strategic plan envisions significant development of physical infrastructure to ensure implementation of the anticipated programmes and services. In addition to formal academic programmes, emphasis will also be given for nurturing entrepreneurship and provide incubation for new start-ups. NIE alumni network will be strengthened and alumni help will be sought for improving academic and several value added activities. We have made good progress till date in collaboration with leading academic institutions in India and abroad, and it will be one of the leading priorities in the years to come.

Figure 1 illustrates the broad framework, which has been developed for NIE Strategic Plan: 2021-26. *Intellectual Infrastructure, Courses & Service Offerings* and *Institution Building* will continue to be the main pillars on which NIE will frame the objectives, targets and action plan. Innovative academic programmes, high quality research, industry collaboration, promotion of entrepreneurship, collaboration with leading academic institutions in India & abroad, engagement of alumni and outreach activities will provide the bricks and mortar for the main pillars. The prime movers for achieving the plan targets are the faculty, staff and students.

The NIE Management is committed to significantly strengthen the physical infrastructure, in order to ensure the achievement of the projected growth of the

Institution. A host of core activities have been planned at all levels of the Institution, which will provide the impetus for the journey towards excellence.

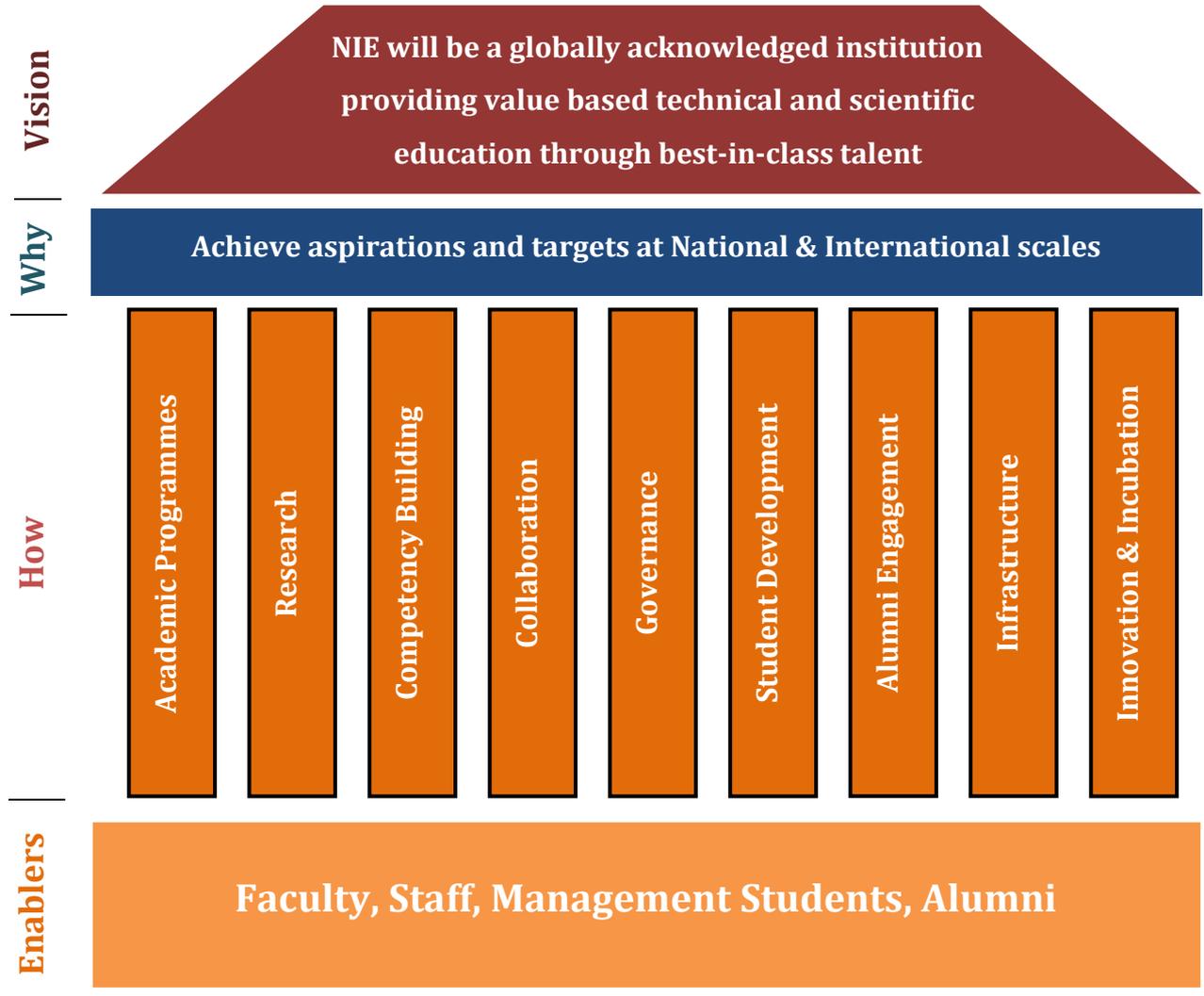


Figure 2: Framework for NIE-Strategic Plan-2021-26

## Targets

On the foundation built by previous visioning exercises & long term plans, the Strategic Plan: 2021-26 has been worked out with broad goals and typical focus areas related to intellectual infrastructure, programmes and services offering and institution building. This section elaborates on specific targets vis-à-vis the focus areas.

### 3.1: Academic Programmes

The Government of India has created a paradigm shift in education through the implementation of the National Education Policy (NEP). We are ready and able to tackle the challenges facing us. We will be working hand-in-hand with the Industry, University & Government to create novel curricula & teaching learning experiences to the greatest advantage to our students. An increase in Skills based courses, reduction in student load, increased industrial involvement in teaching through subjects handled by industry, lectures & visits, implementation of teaching beyond the classroom, credits to student competitions, Massive Open Online Courses and greater emphasis on project & design courses are few of the goals we are striving for.

In order to enable students to meet their career objectives, the Strategic Plan aims to introduce flexibility in the curriculum keeping pace with liberalisation and globalisation in education. The adoption of NEP allows students an easy mode of mobility to various educational institutions spread across the world along with facility to transfer of credits earned by students.

NIE has been practicing Outcome Based Education (OBE) in letter and spirit. OBE has been strengthened with the adoption of Bloom's Taxonomy. The curriculum will be restructured in the light of the above developments and will introduce many interdisciplinary electives at the Institute level as well as department level.

Undergraduate laboratories have been modernized and expanded in the last few years with an emphasis on hands-on practice. NIE has been introducing several innovative practices in curriculum development and during over the past few years with the AICTE Model Curriculum as a guide.

**Specific targets**

- Introduction of a National Education Policy 2020 driven curriculum
- Introduction of new Under Graduate programmes at the cutting edge of technology in the fields of AI, Cyber Security, Industry 4.0 and the like
- Introduction of courses in collaboration with industries in UG/PG programmes
- Introduction of courses offered by overseas universities / institutes as Massive Online Open Electives
- Introduction of more open electives, interdisciplinary electives & projects

**3.2: Research**

The overall strategy for strengthening research activities at NIE during 2021-26 is to vigorously identify research areas of relevance to the industry. In order to achieve goals related to raising the quantum of research output and improving its quality, NIE will adopt a multi-pronged strategy addressing the issues of enhancing the number of research scholars and the faculty strength and of augmenting resources. It is envisaged that each Centre of Excellence will involve faculty members drawn from multiple disciplines. Industry collaboration will be sought, wherever possible, to ensure that the research output is in tune with industry requirements. The Dean (R & D) will oversee research related activities.

Research and consultancy are viewed as a means of positively impacting faculty development, publications and IP creation. The strategic plan for research and consultancy is designed to drive the future efforts by making faculty aware of shared interests and opportunities, and available support from government, industry, private foundations, and individuals. Over the last five years the interest shown by faculty in undertaking funded research projects is highly encouraging.

**Specific targets:**

- Improve research and consultancy quantitatively and qualitatively by faculty individually, jointly, and collaboratively
- Create Inter-disciplinary research groups for prospective applied research
- Constitution of Research Advisory Board with external resource persons.
- Increase number of publications in top journals/conferences
- Equip the laboratories with relevant modern equipment, software and library

- resources to suit research demands
- Develop research interest among post-graduate and undergraduate students
  - Improve financial support and amenities for research scholars
  - Increase intake of research scholar
  - Introduce post-doctoral fellowships
  - Pursue a policy of active patenting and commercialization
  - Start a dedicated R&D facilitation & documentation centre
  - Advising and mentoring graduate students in the context of ongoing research activities

### **3.3: Competency Building**

The strategy for competency building is to increase the strength of human resources while giving its focus on improving quality of faculty and staff. This will improve their productivity in terms of performance at the Institute. Faculty and staff will be provided periodic training for updating their knowledge and skill. This comprises the activities of need-identification, recruitment, training and development, personnel administration, and evaluation of performance. The anticipated growth in the number of UG/PG programmes will create the opportunity to recruit young blood and enable the fresh staff members to grow professionally along with the Institute.

#### **Specific targets:**

- Depute faculty members to join M.Tech and Ph.D programmes under the Quality Improvement Programme (QIP)
- Grant of study leaves to faculty members who get admission for higher studies in overseas universities
- Depute of faculty members to eminent universities/institutes under the faculty exchange programme
- Provide financial incentives for faculty members to pursue Ph.D/ M.Sc Engg.(by research)
- Introduce Faculty Appraisal and Development Programme (FADP) policy in reference to 360<sup>0</sup> feedback as articulated by the Government of Karnataka
- Conduct orientation programmes for the newly joined faculty members
- Enable faculty members to attend FDPs, and to present technical papers in national and international events

- Conduct a series of leadership workshops for faculty members
- Continue the benefit of training and development programme for technical staff.
- Provide opportunities to technical staff members to obtain higher educational qualifications to pursue their aspirations.

### **3.4: Collaborations**

In the last one decade, NIE has made significant progress in forging links with the industry and leading technological institutions in India and abroad. MoUs have been signed with leading companies as well as Institutions abroad. These MoUs have resulted in tangible benefits to the student community and faculty. NIE will build collaboration with more industries to create more centres of excellence on the campus.

The Institute already has a growing exchange programme with reputed overseas universities/institutes. NIE seeks to increase the quantum of exchange of undergraduate students, post-graduate students and research scholars. The emphasis will be on joint innovative student projects and collaborative research. NIE also has the goal of increasing the level of faculty exchange.

Over the past five decades, NIE has been providing technical expertise to both local and State Government agencies. These outreach activities have taken the form of certification of vital infrastructure, environmental assessment, treatment of water and soil contamination, providing expertise in new renewable energy technologies, recommending measures to ensure the safety of heritage structures, and road and transportation engineering etc. Strategic Plan: 2021-26 identifies proactive outreach as an important aspect of achieving the Institute's goals of excellence in teaching and research. One important objective of our outreach effort is to diversify the student population and promote aspirations to study at NIE.

#### **Specific targets:**

- Establish an exclusive centre for collaborative activities.
- Promote faculty and student exchange programmes/sabbatical with leading institutions in India and abroad.
- Promote collaborations with industries leading to post graduate diploma programmes for working professionals.

- Increase the number of activities through the Centres of Excellence (CoE) in collaboration with industry.
- Encourage faculty members and technical staff to undergo Industrial training.
- Design skill-based courses in collaboration with industry.
- Facilitate industry professionals to acquire higher qualification.
- Provide technical expertise and solutions to pressing issues of public importance.

### **3.5: Academic Governance**

NIE has developed a good governance system, which has an independent and fully empowered governing system with representation from key constituents such as independent members representing industry, community and faculty, whose sole purpose is to support the mission and objectives of the institution. The academic bodies comprising the Academic Council at institution level, Board of Studies and Advisory Boards at the department level ensure smooth and effective governance of academic activities. Each board will have experts drawn from industry, research organisations and leading academic institutions. These academic bodies ensure that the engineering curriculum is fine tuned to meet industry expectations.

In order to ensure smooth and effective functioning, as part of delegation of administrative/ academic functions, the positions of Dean (Academic Affairs), Deputy Dean (Academic Affairs), Controller of Examinations (CoE), Deputy Controller of Examinations, Dean (R & D) and Head-IQAC have been created. A Department Council (DC) is constituted to strengthen governance at department level. The DC will have faculty members drawn from different levels of faculty. The DC provides academic and administrative support to the Head of the Department to efficiently manage the department.

The Institute has realised the importance academic reforms to continuously monitor and reform academic activities, so that they meet the expectations of stake holders. NIE established the Internal Quality Assurance Cell (IQAC) in the year 2010. IQAC has been given the mandate to ensure that quality of teaching and evaluation process is being practiced in the Institute. It has set up two important committees, namely, the Academic Reforms Committee (ARC) and Examination Reforms Committee

(ERC). These committees have been functioning since the year 2010. These committees take stock of the deficiencies in the existing system and suggest required reforms.

Class Committee (CC) introduced from the academic year 2013-14 onwards. Each class in the departments has a Class Committee comprising 8-10 students. The Class Committee is constituted to have representation for top performers, average performers as well as poor performers (decided based on CGPA). It will also consist of students belonging to all categories as well as girl students. The aim is to ensure that grievances of all sections of students are addressed in a systematic manner. The head of the department will take suitable action to address the grievances of the students.

**Specific targets:**

- Adapt good governance practices
- Establish Dean's Committee to monitor the different activities of the institute.
- Promote open elective courses and interdisciplinary projects.
- Promote pedagogical innovations, blended learning, and virtual labs.
- Promote alternate assessment and evaluation tools.
- Adapt a suitable HR policy at the institute level.
- Invite professionals from industry and alumni in academic reforms committee.
- Have the practice of academic and administrative audit every year.
- Digitise answer scripts

### **3.6: Students' Development**

The rigor of academic life at NIE will be supplemented by other student-centric activities like conferences, technical competitions and seminars to broaden the learning experience. The students are also sensitized to societal and environmental issues, so that they experience such endeavours as rewarding as classroom experience.

NIE makes it a point to provide students with opportunities to broaden their prospects by supporting their forays in national & international competitions. We house numerous student clubs on Motorsports, Aeromodelling, IEEE, Cultural Activities, Photography, Robotics & Entrepreneurship through which our students have participated & won plaudits in numerous events. We also organize national & international conferences, symposia, technology fairs & paper presentation competitions to help our students showcase their abilities and interact with students and experts from all over the country to help expand their horizon.

The training programmes, extra-curricular activities and increased exposure to the real world are all designed to make our students industry ready, help them prepare for life as successful professionals and valued members of the society. Working with the Training & Placement Office we strive to improve the opportunities for on-campus placement of our students.

The Training & Placement Division at NIE has adequate infrastructure, including computers with Internet facility and interview/discussion rooms. As part of the training activity the TAP division conducts training programmes for pre-final year students on aptitude, verbal, psychometric and technical tests, group discussions, mock interviews.

NIE has always made it a point to encourage sports. In fact, one of the ideals of the NIE Founders was that sport should be a part of engineering education and it has been maintained even today. We cater to almost 23 disciplines of Sports and Physical Education for both men and women. It has excellent state-of-the-art Infrastructure for Indoor Sports and provides excellent facilities in terms of equipment.

**Specific targets:**

- Augment co-curricular and extra-curricular activities, including sports, for all-round development considering the diversity of student population.
- Fine tune placement of undergraduate students to meet the aspirations of the students and expectations of employers.
- Aim to achieve placement target of 100% across all disciplines by the year 2025.
- Reach out to more number of companies/industries and academia for good placement and internship/research respectively.
- Introduce Teaching Assistantship to Master's students and scholarship to Doctoral candidates above and beyond the existing scholarships and endowment prizes.
- Set up a corpus fund to provide financial incentive to students who participate in technical competitions and award gold medals to rank holders and other achievers.
- Create a system that can provide financial, technical & administrative assistance to student co-curricular & extra-curricular activities.

### 3.7: Alumni Engagement

NIE will continue to build relations with its alumni spread all over the world. One of the priority focus areas is to create more opportunities for alumni to spend time on campus and engage with students and faculty. Besides NIE Alumni Association, every member of the Management and faculty is showing keen interest in NIE alumni connect.

#### Specific targets:

- Empowering alumni relations with All-in-one Alumni Management Software. The target is to gather and compile 30,000 alumni names by end of 2025
- Cultivate through alumni, industry linkages that help in special lectures, internship, placement and setting up of labs
- Increase fund raising by providing alumni the clear objective of requirement and utilisation of funds
- Organize alumni meets in India and abroad, in order to sensitise the alumni about the development plans of NIE and seek their active support

### 3.8: Infrastructure

The intake of students, both at undergraduate and post-graduate levels, has drastically increased over a period of time. The intake that was 681 in the year 2010 has increased to about 1110 in the year 2021. Further, modernization of existing laboratories have made us build additional infrastructure. Also, NIE being started almost about 75 years ago has some old buildings and hence require either renovation or demolition. The number of faculty members is also increasing steadily.

Realizing the need for additional building space, the Management has taken a conscious decision to build state-of-the-art buildings to accommodate classrooms, faculty rooms and laboratories and Centres of Excellence.

#### Specific targets:

- Enable a sustainable campus that has space for inter-disciplinary centres with architecturally distinct units, supported by green concepts
- Optimise use of campus space and resources while developing suitable locations for expansion and constructions
- Improve the systems of waste disposal and handling processes and to ensure recycling of water by the end of year 2025

- Bring in professionals to manage hostels and outsource other services like security, house-keeping, etc.
- Hire professional Project Management agencies/consultants and architects to build modern infrastructure

### **3.9: Innovation & Incubation**

NIE has set up a powerful innovation and incubation ecosystem. The idea is to work with industry to support the development of new products and their commercialization. It will be promoted by NIE and its alumni. The Incubation & start-up center will emerge as a game changer. It is expected to provide high-quality incubatees from amongst the Institute's faculty and students, as well as external incubatees with potential for collaboration with NIE faculty members. This collaboration will be in the form of product development, research projects, consultancy, guest teaching, co-supervision of research scholars, student projects and internships.

#### **Specific targets:**

- Develop mechanisms to convert research outcomes into marketable products
- Strengthen the existing innovation and entrepreneurship cell
- Provide training in entrepreneurship
- Enable students & faculty to prepare project proposals for starting new enterprises