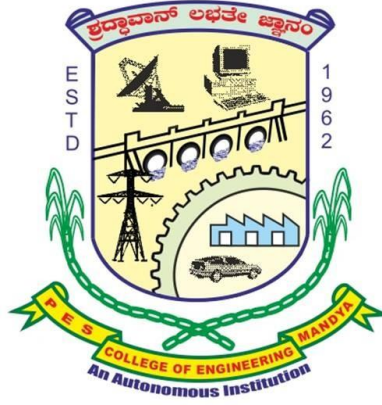


P.E.S. College of Engineering
Mandya - 571401



STRATEGIC DEVELOPMENT PLAN
2021-2026

Overview

Strategic Development planning is a continuous process with a specific focus on accomplishing long, mid and short term goals. However, Strategic Development Planning always considers the available resources and the present environment of the institution. Strategic Development Plan (SDP) analyses current environment expected future scenarios and envisages the future direction of the institution. The strategic plan identifies means of achieving vision, mission and quality policy while practicing core values.

The first part of SDP is setting to Stakeholders expectations, revisiting vision, mission, core values and working to bring out a good quality policy. These are achieved through many deliberations with Stakeholders (management, leadership, HoDs, faculty, staff, students, alumni, professional associations, industry and parents). The final outcome from these meetings are discussed and approved by the Board of Governors (BOG).

Scientific scanning of internal and external environment is done through SWOT exercise. After scanning the environment, institutional high-level goals were set up and strategies and sub strategies to be arrived are achieved. Based on institutional strategic goals (ISG), key performance areas are identified and specific targets were set for each. The process of implementation is worked out and circulated to all the departments.

It is highly exhilarating to note that most of the inputs are drawn from Stakeholders which are the testimony to the team participation process. The SDP will enhance the capability of the PES College of Engineering in delivering successful results. The institution will no doubt grow and be a torch bearer in providing technical education for many decades to come, thereby leading to accomplish its stated mission and vision.

During the formulation of the first SDP 2014-20, we had put in lot of efforts in bringing out a quality plan document, which came to us very handy in preparing this second edition. Industry interaction has improved. More research papers are getting published every year. Institute obtained NAAC B++ grade. Six undergraduate departments received NBA accreditation. Good rankings in NIRF is also an achievement. This is a great sense of satisfaction to all of us. With this accomplishment, we have now prepared the SDP manual for 2021-26.

About P E S College of Engineering, Mandya

P.E.S College of Engineering (PESCE) is one of the premier Engineering Colleges in the state of Karnataka, started in the year 1962. PESCE is committed to provide quality technical education and has created a mark for itself over the years with outstanding achievements of faculty, students, and alma mater. The college is functioning under the Grant-in-aid scheme of Government of Karnataka. The institute is permanently affiliated to Visvesvaraya Technological University (VTU), Belagavi. Obtained academic autonomous status in the year 2008 by UGC. It is recognized by All India Council for Technical Education (AICTE), New Delhi. The college was selected under TEQIP (Phase-II & Phase-III) World Bank financial assistance scheme.

P.E.S. College of Engineering, Mandya has secured 147th rank in NIRF-2020 by improving its position of 161st rank in NIRF – 2019. Currently more than 3200 students are receiving quality technical education from 194 distinguished faculty out of which 58 faculties having highest qualification with Ph.D degree. The staff members are highly qualified and well experienced. The teaching-learning process comprises of interactive teaching, project-based research, coaching, counselling and mentoring.

The College has one of the best green campuses with state-of-the-art teaching facilities viz. spacious class rooms, best laboratories, sports complex, multimedia facilities, well stocked library, digital library. Each department is housed independently with well-maintained laboratories having latest sophisticated equipments which cater to the practical needs of the student.

Under Graduate Programmes	Post Graduate Programmes
1. Automobile Engineering	1. Master of Computer Application (MCA)
2. Civil Engineering	2. Master of Business Administration (MBA)
3. Computer Science and Engineering	3. M.Tech (Computer Aided Design in Structures)
4. Electrical and Electronics Engineering	4. M.Tech (Computer Science and Engineering)
5. Electronics and Communication Engineering	5. M.Tech (VLSI and Embedded Systems Design)
6. Information Science and Engineering	6. M.Tech (Machine Design)
7. Industrial production and Engineering	
8. Mechanical Engineering	

Research Programs:

The College has got well established research centers. All the departments have got recognition as research centre from VTU Belagavi, where faculties and students are doing their research for M.Sc (Engineering) by Research and Ph.D degree.

University of Mysore has recognized the PET research foundation to carry out research for M.Sc Engineering by research and Ph.D degree in the field of Computer Science, Electronics, Mathematics and Chemistry from other Universities. Many Scholars have registered and pursuing study for MSc(Engg) and PhD programs, under University of Mysore, Mysuru, Kuvempu University, Shimoga, etc. More than 100 research scholars from various Institutes of Karnataka have registered and actively involved in research work for Ph.D degree. So far, around 130 research scholars have been awarded Ph.D degree. There are many sponsored ongoing research projects supported by UGC, DST, VGST and AICTE. The total funds received by our college exceed Rs 3.5 Crores.

Centers of Excellence:

The PESCE is widely recognized as a Centre of Excellence in Technical Education, Research, Training and consultancy.

- The department of Mechanical Engineering has got Centre of Excellence in Tool Design and Computer Aided Manufacturing.
- A VLSI Design centre established in the department of Electronics and Communication Engineering is funded by Vision Group of Science and Technology of Karnataka, which offer training programs for academicians and technocrats.
- The department of Civil Engineering is extending its expertise in soil and material testing, Transportation engineering, building design and construction supervision to the public and government agencies.
- Government of Karnataka supported “Alternate Energy Resource Centre” to propagate the use and production of Biofuel and their products has been established.
- Department of CSE and ISE have received funds from VGST to set up IoT and Network Forensics laboratory.

Vision

"PESCE shall be a leading institution imparting quality engineering and management education developing creative and socially responsible professionals."

Mission

- Provide state of the art infrastructure, motivate the faculty to be proficient in their field of specialization and adopt best teaching-learning practices.
- Impart engineering and managerial skills through competent and committed faculty using outcome based educational curriculum.
- Inculcate professional ethics, leadership qualities and entrepreneurial skills to meet the societal needs.
- Promote research, product development and industry-institution interaction.

Quality Policy

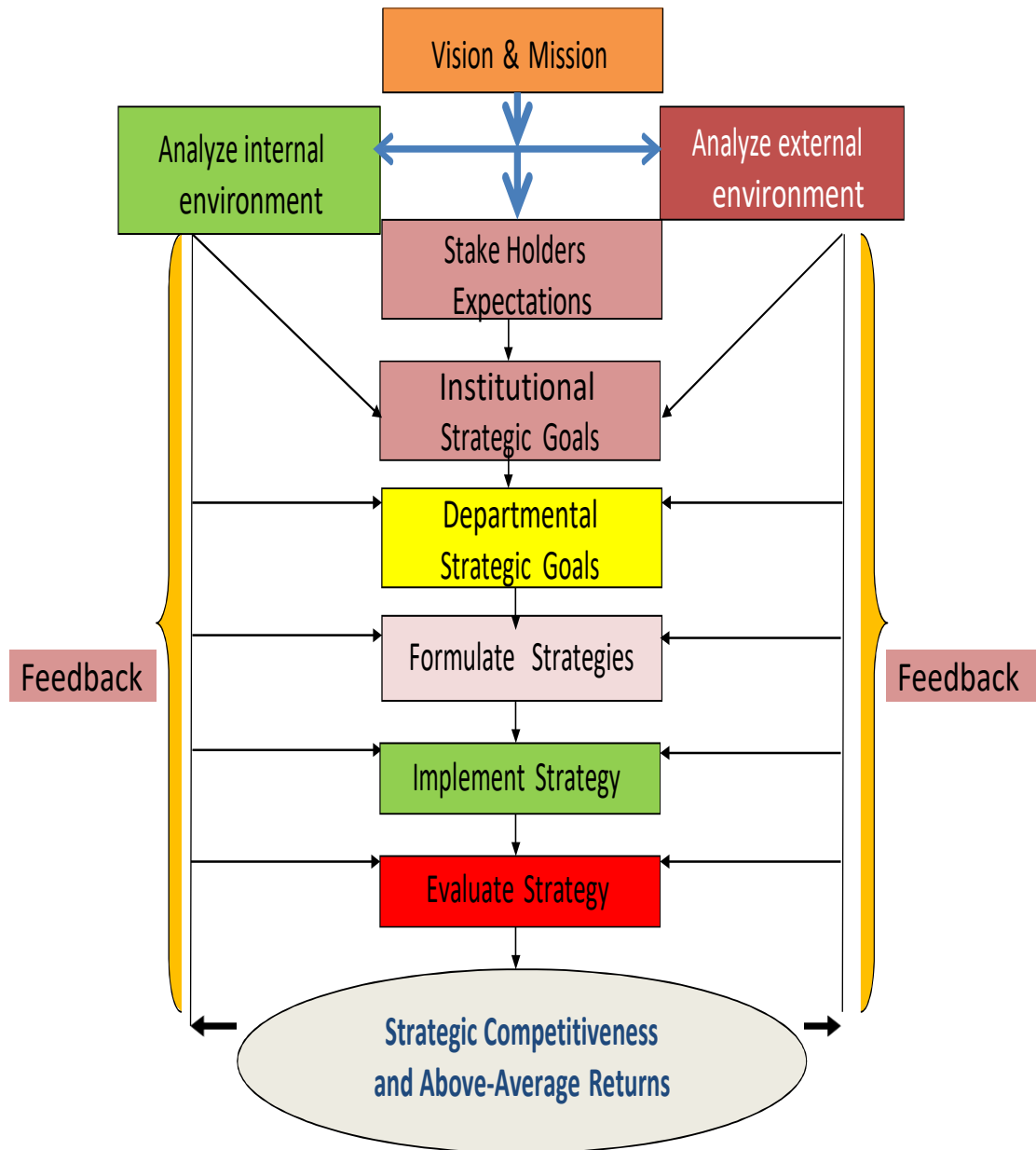
" Highly committed in providing quality, concurrent technical education and continuously striving to meet expectations of stake holders "

Core Values

Professionalism **E**mpathy **S**ynergy **C**ommitment **E**thics

Strategic Development Plan Process Diagram

The figure below, depicts the Strategic Development Plan Process followed in formulating institutional strategy for the period of 2021-2026.



Strategic Development Process Diagram

Institutional strategic goals formed main theme for arriving at strategies to achieve them and sub-strategies towards implementation plan.

Stake Holders Expectations

Management	<ul style="list-style-type: none">• Brand• Growth of the Institution• Social Service
Leadership Team	<ul style="list-style-type: none">• Committed Management• Best Faculty• State of the art infrastructure• Academic Excellence
Faculty & Staff	<ul style="list-style-type: none">• Professional Growth• Best compensation & benefits• Good Students input
Students	<ul style="list-style-type: none">• Best teaching-learning• Training &placements /• Incubation and Start-ups• State of the art infrastructure
Parents	<ul style="list-style-type: none">• Disciplined and well-developed graduates• Holistic development of students• Training &placements
Industry	<ul style="list-style-type: none">• Highly Skilled-employable students• Critical thinking &Problem-Solving skills• Soft skills
Society	<ul style="list-style-type: none">• Responsible citizen• Service orientation

External Environment Analysis

- **Economic Factors:** GDP of the country determine job market and number of students getting placement. If Placements get affected; this will have a direct bearing on admissions, particularly management quota.
- **Social Factors:** Large parenting community is focussing on job-oriented courses only but not on real education. This may pose great danger for pursuing quality learning on the part of the student. Only placement focussed learning may dilute academic standards.
- **Technological Factors:** Use of technology in teaching- learning may have to be extensively used for higher effectiveness, meeting competition and to save time. Syllabus review to match concurrent technologies needs a re-look on the curriculum revision on a periodical basis. Emerging technologies are posing challenges in training faculty with latest changes happening in the industry. E-learning /online learning/online examination may replace traditional classroom teaching-learning practice in near future.
- **Political Factors:** Political factors at the state level looked more stable and not many changes due to this factor. However, clarity on admission policy from government could be a challenge. Higher education is getting a big priority from political decision making.
- **Regulatory Factors:** Regulatory factors are stable. PESCE, Mandya is autonomous, and currently affiliated to VTU. The institution must be geared up to meet the proposed New National Education Policy framework.
- **Market /Competition Factors:** Many Deemed /Private state universities /Industry lead universities / engineering colleges are getting started in our state as well as many states. Other states inflow may be less and may affect admissions.

Institution - Internal Environment Analysis: SWOT

<p style="text-align: center;">Strengths</p> <ul style="list-style-type: none"> • Committed management • Brand name • Infrastructure • Decades of Expertise • Aided & Autonomous Institution • Eminent Faculty with (35 % Ph.Ds) • Research Expertise • TEQIP and Research Grants • Ranked among top 200 in NIRF • NBA & NAAC Accreditation • Green Campus & sports complex 	<p style="text-align: center;">Weakness</p> <ul style="list-style-type: none"> • Rural based students • Industry interaction • Educational ERP implementation • Placements in core engineering branches and product-based companies • Social Media presence
<p style="text-align: center;">Opportunities</p> <ul style="list-style-type: none"> • University status • Incubation & Start-ups • Innovative teaching & learning • MOUs/Collaborations • Starting of New Courses in Engineering • Global initiatives • Use of Latest Technology • Upgrading faculty through QIP 	<p style="text-align: center;">Threats</p> <ul style="list-style-type: none"> • New Emerging technologies • Entry of Foreign Universities • Competition from Private Universities • Admission of quality students • Government / University Policies

SWOT

Critical Success Factors analysis has been discussed at length and the following factors have been identified.

- Best quality students attraction
- Best teaching- learning practices
- Best placement opportunities
- State of the art infrastructure
- Industry- institute interface collaboration
- Research, Incubation, Innovation and Start-ups
- Starting of new programs in emerging areas

Institutional Strategic Goals (ISG) (2021-2026)

Institutional Strategic Goals Leadership Team having brain stormed vision, mission, quality policy, core values, environmental factors and SWOT analysis, the following high level goals have been identified (HLG) which are also called Institutional Strategic Goals (ISG).

ISG 1. To Create Centres of Excellence

- Creation of Centres of Excellence (COE) by utilizing the resources and expertise
- Set up laboratories to pursue research with some of the reputed industries.

ISG 2. To Provide State-of-the-Art Infrastructure Facility

- Develop infrastructure for carrying out R&D activities
- Academic infrastructure to be strengthened further
- Strengthen campus wide networking
- Modernization of laboratories.

ISG 3. To have 70% of Faculty with Ph.D qualification

- Encourage faculty to register for Ph.D.
- Support faculty who have already registered to complete their Ph.D.
- Recruitment of faculty with Ph.D. from premier Institutions in specialized area/industry expertise.

ISG 4. To introduce new UG and PG Programs and enhance the intake of existing programs

- Explore the possibilities of adding new UG and PG programs (based on the availability of resources and industry demand).
- Enhance intake across programs depending upon the demand.

ISG 5. To facilitate students to become Entrepreneurs (Incubation Centre)

- Conduct Business Plan and Idea Competition.
- Encourage more campus companies to provide start-up opportunities for our students.
- Provide the necessary infrastructure for incubating the ideas.
- Bring in mentors to hand hold the students with innovative ideas.
- Provide the seed fund to develop prototype.

ISG 6. To make use of Technologies for providing Skill sets and additional Self-Learning

- Adopt digital learning, e-learning solutions, and interactive sessions.
- Encourage self-learning techniques.
- Adopt blended learning to maximize student learning.

ISG 7. To Collaborate with Foreign/National Institutions of Higher Learning and Research Organizations

- Collaborate with reputed Foreign Universities/Institution.
- Faculty exchange programs.
- Partnership programs.
- Collaborate with Universities/Institution of Repute for Research Activities.
- Best Practices from Reputed Academia & Industry to bring Holistic Learning Experiences.

ISG 8. Strengthening the conduction of social activities

- The College plans to increase the conduction of social activities to create strong connectivity with neighborhood community through various departments and committees of the college.

Key Performance Areas and Targets

The Strategic Development Plan has set the targets or goals for infrastructure, Faculty Excellence, Students intake, Internationalization, Branding, Accreditations, Research, Collaborations, Financial sustainability, etc., which also illustrate the ways of achieving the targets and goals over the timeline. A team of Senior Professors are involved in monitoring the implementation of the Strategic Development Plan. The progress in achievement of the targets is reviewed periodically. The strategic plan is given below as in tables.

Table 1: Strategic Development Plan for Infrastructure

Academic Years		2021-22	2022-23	2023-24	2024-25	2025-26
Sl. No.	Key Performance Area (KPA)	Progressive Enhancement Targets (PET) - Year-Wise				
1	Supporting infrastructure for Introduction of new UG & PG courses	UG-1	UG-1	UG-1	PG-1	PG-1
2	Innovation and Incubation Centre	Initiate approval and construction	Completion of construction	-	-	Planning for Expansion of centre
3	e-Governance	Software for managing T&L process	Fee payment and Exam automation	Office automation	Continuous improvement	

Table 2 Strategic Development Plan for Teaching – Learning, Accreditation and Rankings

Academic Years		2021-22	2022-23	2023-24	2024-25	2025-26
Sl. No.	Key Performance Area (KPA)	Progressive Enhancement Targets (PET) - Year-Wise				
1	NIRF	Within 150 ranking	Within 150 ranking	Within 150 ranking	Within 100 ranking	Within 100 ranking
2	ARIIA	Band Performer	Band Performer	Band Excellent	Band Excellent	Ranked
3	Professional Society tie-up	1/Dept	1/Dept	1/Dept	1/Dept	1/Dept
4	Innovative Teaching & Learning	Enhance and improve	Enhance and improve	Enhance and improve	Enhance and improve	Enhance and improve

5	Outcome based Education	Enhance and improve	Enhance and improve	Enhance and improve	Enhance and improve	Enhance and improve
6	NBA	CSE and IP	Renewal of NBA –	1 M.Tech program	CSE and IP renewal	-
			ECE, Mech, Civil, ISE, EEE, New: MCA and MBA			
7	NAAC	AQAR	AQAR	AQAR	AQAR	AQAR
8	Involving industry resources in teaching	50 hours in an AY	50 hours in an AY	50 hours in an AY	50 hours in an AY	80 hours in an AY

Table 3: Strategic Development Plan for Students Related

Academic Years		2021-22	2022-23	2023-24	2024-25	2025-26
Sl. No.	Key Performance Area (KPA)	Progressive Enhancement Targets (PET) - Year-Wise				
1	Admission (UG)	80%	85%	90%	95%	100%
2	Admission (PG)	80%	85%	90%	95%	100%
3	Placement (UG)	65%	70%	75%	80%	85%
4	Placement (PG)	65%	70%	75%	80%	85%
5	Student Entrepreneurs	2	3	4	6	8
6	Student publications (UG)	5 / dept	8 / dept	12 / dept	16 / dept	25 / dept

Table 4: Strategic Development Plan for Faculty Related

Academic Years		2021-22	2022-23	2023-24	2024-25	2025-26
Sl. No.	Key Performance Area (KPA)	Progressive Enhancement Targets (PET) - Year-Wise				
1	Pass % (UG)	75	>=80	>=80	>=85	>=90
2	Pass % (PG)	80	>=85	>=85	>=90	>=90
3	Student: Faculty Ratio	1:18	1:18	1:15	1:15	1:15
4	Publication per Faculty	70%	80%	90%	100%	100%
5	Number of Ph.Ds	30%	40%	50%	60%	70%

Table 5: Strategic Development Plan for Research and Development Strategy

Academic Years		2021-22	2022-23	2023-24	2024-25	2025-26
Sl. No.	Key Performance Area (KPA)	Progressive Enhancement Targets (PET) - Year-Wise				
1	Funded Project - Applied	5	7	10	12	15
2	Funded Project - Sanctioned	2	3	4	5	6
3	Patent Published	1 / Dept	1 / Dept	2 / Dept	2 / Dept	3 / Dept
4	FDP / workshop conducted	1 / Dept	1 / Dept	1 / Dept	2 / Dept	2 / Dept
5	International Conference	1 / Stream	1 / Stream	1 / Stream	1 / Stream	1 / Stream
6	MoU with industry	1 / Dept	2 / Dept	2 / Dept	3 / Dept	3 / Dept

Conclusion

PESCE was started with humble beginnings in 1962 and has completed Diamond Jubilee in 2022 (1962-2022). The institute has progressively grown and achieved many milestones. Institution is making attempts to address challenges in terms of admissions, intake quality, faculty shortage, faculty quality, competition, and foreign institutions entry. The institute is aided by Govt. of Karnataka and got the autonomous status and revising syllabus quite frequently as per industry requirements. In the recent past, many engineering institutions are not able to attract students leading to unavailability and getting closed-down in neighbouring states. These challenges are being addressed as part of the Strategic Development Plan (**SDP: 2021-2026**).

The SDP is an outcome of detailed deliberations with all the stake holders. This collective wisdom ensures owning up of the plan from specially Leadership and Management team. The high-level goals have strategies. The strategies have sub strategies with detailed implementation plan to ensure success and sustainability. The execution and operational implementation are monitored periodically and necessary actions are initiated.