B.M.S. COLLEGE OF ENGINEERING
Autonomous Institute Affiliated to VTU

STRATEGIC PLAN DOCUMENT

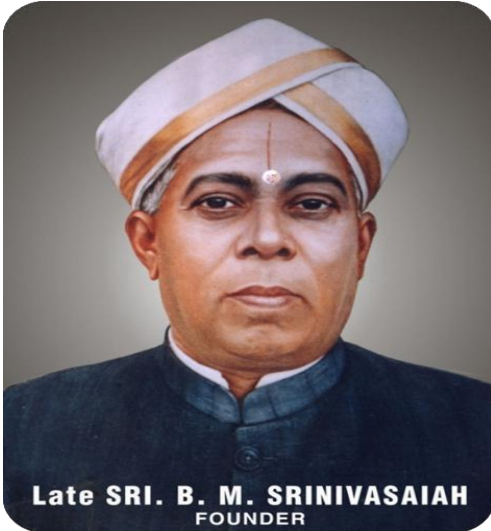**2021-2025**

FOUNDER

Late SRI. B. M. SRINIVASAIAH
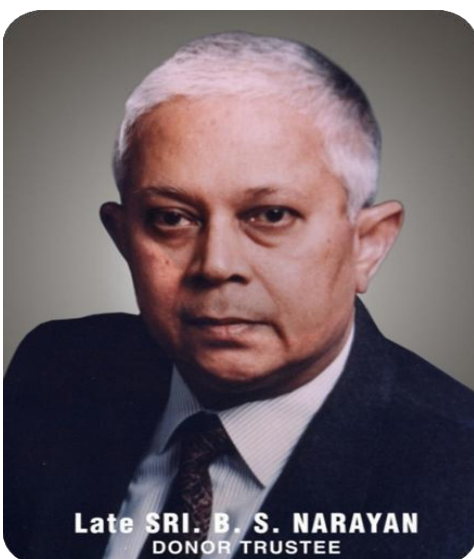FOUNDER

The College was founded by Late Sri Businayana Mukundadasa Sreenivasaiah (BMS), a great Philanthropist & Visionary Ideals for which he stood, continues to inspire his inheritors. He was honored with Raja Karya Prasaktha by the then Maharaja of Mysore in the year 1946.

DONOR TRUSTEE

Late SRI. B. S. NARAYAN
DONOR TRUSTEE

The dynamic and enterprising son of the Founder Sri B. S. Narayan took over the reigns of the College after the demise of the founder Instrumental in introducing 9 UG and 9 PG programs both in conventional and emerging areas. Established International Cooperation Division in 1979 Partnered with the Melton Foundation, USA in 1991 for Cross Cultural Learning with Students from USA, Germany, Chile, China and Ghana.

ABOUT THE INSTITUTION

VISION	Promoting Prosperity of mankind by augmenting human resource capital through quality Technical Education and Training
MISSION	Accomplish Excellence in the field of Technical Education through Education, Research and Service needs of Society

B.M.S. College of Engineering (BMSCE) Bengaluru has the unique distinction of being the first private engineering college established in the country. Started in the year 1946, the institution owes its existence to the vision of its beloved founders, Late Sri. B. M. Sreenivasaiah and his illustrious son Late Sri. B. S. Narayan. Over the past 75 years, BMSCE has produced more than 40,000 graduates who have enriched the world through their immense contributions as engineers or leaders for mankind. The College is ranked 83rd among top engineering colleges in the country in NIRF-2022. BMSCE is approved as QIP Centre in Engineering & Technology by AICTE. Currently all the UG Programmes hold the status of Accreditation from NBA, New Delhi in tier I Format. The College is accredited by NAAC with the highest grade of A++ in the Second Cycle and a CGPA of 3.83 on a scale of four. AICTE has recognized the college under National Doctoral Fellowship Scheme (NDF) during 2018-19. The College became autonomous, UGC approved, in 2008 and has been effectively practicing Outcomes-based Education. BMSCE is listed as a lead innovator for the year 2020 and 2021 by Clarivate Analytics (Web of Science) based on the Derwent World Patent Index. In the ARIIA (ATAL Rankings) 2021, the college was ranked in band-Excellent. TEQIP Institution (World Bank Project); Best performance rating in all three Phases. The College offers 17 Undergraduate & 15 Postgraduate courses both in conventional and emerging areas. More than 328 research scholars are pursuing their PhD Degree in the 14 research centres of the college. 200 PhDs and 22 M.Sc. (by research) have been produced so far through these research centres. Qualified and experienced faculty & staff & good Faculty/Staff retention rate. The Institution has MOUs with various organizations. It has developed many Centres of Excellence, cutting edge laboratories and incubation centres in collaboration with industries with an aim to enrich the learning experiences of the graduating students and to comply with the programme outcomes. The learning experiences and quality educational practices created at the institute supplemented with academic ambience, state of the art infrastructure, pedagogy, academic innovations, research, incubation, training opportunities and entrepreneurship provided to diverse student population is enabling the institute to produce graduates who are industry ready.

STRATEGIC PLAN 2021-2025

The Strategic plan (2013-2020) with long term and short-term perspectives was in vogue. The implementation of the strategic plan was executed with the support and involvement of all the stake holders. The BOG periodically reviewed the implementation of strategic plan. The extent of compliance and milestones achieved were presented to the Board of Governors from time to time. The college has been able to accomplish almost all the goals with the co-operation and support of all stakeholders.

The Strategic Plan 2021-2025 has been prepared considering the following parameters:

- SWOC Analysis conducted through external expert
- Observations of various assessing agencies
- Good Governance practices
- Improve ranking under NIRF
- Student success Index
- Institutional outreach
- Future challenges

SHORT TERM GOALS

1) Starting of New Programs in Emerging Areas
2) NBA Accreditation (All Eligible UG & PG Programmes)
3) Improve Ranking Under National Institutional Ranking Framework (NIRF)
4) To Attain Re-Accreditation NAAC (CYCLE III) With Highest Grade
5) Strengthening E-Governance by Complete Automation of all Academic/Administrative Processes to Maintain Transparency

LONG TERM GOALS

1) Setting-up Section-8 Company for Devising the Enablement of Start-ups and Entrepreneurs
2) Research & Development –2021-2025
3) 75% of Faculty with PhD Qualification
4) Implementation of New Education Policy 2020
5) Intellectual Property Right (IPR) Strategy
6) Enhanced Industry Interface

Autonomous Institute, Affiliated to VTU

SHORT TERM GOAL

1) STARTING OF NEW PROGRAMS IN EMERGING AREAS.

Owing to the sharp rise in demand for Undergraduate technical courses in emerging fields, it is proposed to start many UG programmes in emerging/multi-disciplinary fields of study.

Summary of Actions and progress

The Following 03 new Undergraduate BE Programmes were introduced

SNO	Name of the Programme	Year	Annual Intake
1	Artificial Intelligence (AI) & Data Science	2022	60
2	Computer Science & Engineering (Data Science)	2022	60
3	Computer Science & Engineering (Internet of Things & Cyber Security including Block Chain technology)	2022	60

2) NBA ACCREDITATION (ALL ELIGIBLE UG & PG PROGRAMMES)

Quality assurance and endurance through Accreditation by NBA. To obtain NBA accreditation for eligible UG/PG programs.

Summary of Actions and progress

UG Programmes

The NBA Expert Team visited the College from 26.08.2022 to 28.08.2022 & from 18.11.2022 to 20.11.2022 to evaluate 11 UG Programmes. The results are as shown hereunder

1	Electrical & Electronics Engineering	From 01.07.2022 to 30.06.2025
2	Electronics & Instrumentation Engineering	From 01.07.2022 to 30.06.2025
3	Information Science & Engineering	From 01.07.2022 to 30.06.2025
4	Computer Science & Engineering	From 01.07.2022 to 30.06.2025
5	Bio-Technology	From 01.07.2022 to 30.06.2025
6	Medical Electronics	From 01.07.2022 to 30.06.2025
7	Civil Engineering	From 01.07.2022 to 30.06.2025
8	Mechanical Engineering	From 01.07.2022 to 30.06.2028
9	Industrial Engineering & Management	From 01.07.2022 to 30.06.2025
10	Chemical Engineering	From 01.07.2022 to 30.06.2028
11	Electronics and Telecommunication Engg.	From 01.07.2022 to 30.06.2025

PG Programmes

1	M.Tech - VLSI Design & Embedded Systems	Visit scheduled from 10-12, March 2023
2	MBA	Visit scheduled from 10-12, March 2023
3	M.Tech-Electronics	Pre-qualifier to be submitted on 15.02.2023
4	M.Tech-Digital Communication	Pre-qualifier to be submitted on 15.02.2023
5	M.Tech-Computer Network Engineering	Pre-qualifier to be submitted on 15.02.2023
6	M.Tech-Power Electronics	Pre-qualifier to be submitted on 15.02.2023

It is proposed get all the eligible (UG/PG) programmes accredited by NBA.

3) IMPROVE RANKING UNDER NATIONAL INSTITUTIONAL RANKING FRAMEWORK (NIRF)

Improve standing under NIRF through focused improvement in all prescribed Parameters

Summary of Actions and progress

The College is ranked 83rd among top engineering colleges in the country in NIRF-2022. The College improved by 15 places when compared to NIRF Ranking 2021.

The College has initiated the following measures

1) The Management introduced the scheme of tuition fee reimbursement for meritorious students from Rs.10,000/- to Rs.20,000/-. This has helped improve the marks under metric-Outreach and inclusivity from the NIRF-2022 Ranking.

Ranking	Tuition Fee Reimbursement		Total
	UG	PG	
NIRF-2021	0	0	0
NIRF-2022	31	12	43
NIRF-2023	36	14	50

2) Enhanced the Incentive for Web of Science Journal Publications
3) Circular dated 04.02.2023 has been notified wherein each faculty shall publish at least two Journal papers in a year in refereed journals indexed in web of science/SCI indexed journal in a year.

A detailed metric wise analysis of the ranking was made and the following plans have been arrived at.

1. Research productivity in Web of Science and SCI shall be improved.
2. To approach new companies to visit the college for placements. For the departments where the placement scenario is better, the institution shall approach bigger companies with higher salary package. The Internship opportunities shall be further enhanced by approaching more reputed companies.
3. Outcomes in terms of consultancy across departments will be improved. Presently more than 90% of the consultancy grants is being generated through Civil Engineering Department alone.
4. Outcomes in terms of patent (Published/Granted) shall be improved.
5. Presently only 66.76% of the total faculty i.e. 229 out 343 (Excluding MCA & MBA) possess Ph.D degree. It is planned to have greater number of faculty with Ph.D qualification.
6. Outcomes in terms of External Research Funding shall be improved. New research avenues across domains shall be identified and pursued.
7. Placement opportunities for few core branches needs improvement. Measures will be initiated to improve the placement scenario.
8. It is proposed to recruit regular research scholars based on the faculty strength of the department with an aim to enhance the research outcomes and support academic activities.
9. Low admission rate in some of the M.Tech Programmes is having cumulative effect both on the student admission rate, placement, result and other parameters. It is planned to initiate measures to overcome the deficiency.

4) TO ATTAIN RE-ACCREDITATION NAAC (CYCLE III) WITH HIGHEST GRADE

The Institution was accredited with highest Grade by National Assessment and Accreditation Council (NAAC) in Cycle I & II. The Present Accreditation status by NAAC is valid up till 28.03.2024. However, the assessment period ends on 31.05.2023. The accreditation given by NAAC is usually valid for a period of five years. The Institutions which secures the highest grade consecutively for 3 cycles of accreditation is eligible for extension of validity for a period of 7 years instead of 5 years. The institution aims to achieve this unique distinction.

Summary of Actions and progress
1) The following facilities are either being established or upgraded. The Job shall be completed and fully operational before 30.04.2023

   a) Multi-Gym facility
   b) Common Room faculty for Girl Students
   c) Recording Studio
   d) Bio-Gas Plant at the Hostels

2) The department/Unit wise milestones identified and extent of compliance regularly monitored. The first department-wise review meeting was conducted on 31.01.2022.
3) Entered into MOU with reputed NGOs like Adamya Chethana Foundation towards Societal and Green Initiatives
4) Supported faculty/students initiative towards community based projects to help find remedies to plaguing issues

Plans for the next 03 Months (Timeline – 31.05.2023)
1) Constitution of institution level review committee to conduct regular review of the attainments based on the Checklist on identified milestones.
2) Review of Institutional level (Academic & Administrative) policies
3) Facilitate Internal and external peer Academic Audit
4) Conduction of External Energy/Green/Environmental Audit as mandated by NAAC

Activities for the next 01 Year (Timeline – 31.03.2024)
- Submission of Annual Quality Assurance Report (AQAR)
- Preparation of Self-Study Report of NAAC
- Institutional registration on the NAAC website
- Institutional Information for Quality Assessment (IIQA)
- SSR submission on acceptance of IIQA
- Proceed to Data Validation & Verification (DVV) process and Pre-qualifier Score
- Preparation for the Student Satisfaction Survey (SSS)
- Preparation for Onsite Peer Visit by NAAC Expert Team

5) STRENGTHENING E-GOVERNANCE BY COMPLETE AUTOMATION OF ALL ACADEMIC/ADMINISTRATIVE PROCESSES TO MAINTAIN TRANSPARENCY

The college feels that a strong connection between digital engagement and student experience is pivotal for any institution. The internet connectivity with WiFi connection are indispensable tools to support the student learning. Enhanced ERP automates and streamlines all the processes to significantly improve the effectiveness of allocating and operating academic resources better.

Summary of Actions and progress

1) Digital infrastructure to Simplify Admission Process, Automate Fee Payments, Centralized Data Management, Quicker Management Process and ensure Data Security have been implemented.
2) The college has in place software (campus portal). Customized dashboards are provided to specific stakeholder to access all the data with update profiles.
3) The college website (bmsce.ac.in) has been designed and developed making it more appealing, easy to read and navigate. The website (deployed in AWS Cloud Services) is more secure and has robust search functionality and reaches out to all stakeholders with latest updates.
4) The process of Procurement of ERP Software (Heraizen) has been initiated and under the process of deployment. Presently the institutional data is being collected in structured format and uploaded in the data base.

Planned Activities:

1. Development of new modules to facilitate stake holders - Alumni, Parents, employers.
2. Configuring the systems according to the NEP 2020 Policy.
3. Create an Institutional ERP Policy along with e-Governance policy document.
4. It is also planned to build in-house ERP software as per requirement by utilizing the expertise of alumni/stakeholders.
5. To create an information tool to integrate data as per the format of assessing agencies like NAAC/NBA/NIRF/AICTE/VTU/UGC etc.
6. Create Latest Recording Studio/Media Centre with latest tools.
7. Regular updates of changes (if any) in the norms, policies and regulations from time to time.
8. Testing and analysing critical elements and customizations for changes.

LONG TERM GOAL

1) SETTING UP SECTION-8 COMPANY FOR DEVICING THE ENABLEMENT OF STARTUPS AND ENTREPRENUERS

To establish Section 8 Company under Centre of Innovation Incubation and Entrepreneurship (CIIE).   The Section 8 company would be the gate way for revenue generation through innovation.

Summary of Actions and progress

The management has agreed in principle to establish section 8 company. Senior Finance Officer is presently working out the modalities of obtaining registration.

Planned Activities

1) To define objectives, goals and roadmap of the Section 8 Company for the benefit of all stakeholders.
2) The revenue generated to be applied for providing scholarship/freeship to meritorious students which would in turn attract high ranking candidates through CET.
3) The faculties have opportunity to Post-doctoral work through incubation centre.
4) To recognize, award and reward outstanding / promising start-ups and enablers of start-up ecosystem comprising of students and faculty and outsiders who can be economic engines of tomorrow.

2) RESEARCH & DEVELOPMENT −2021-2025

BMSCE acknowledges innovations and research as a key focus area. The institution has developed necessary infrastructure for quality Research and Development.   The R&D Centre of the college aims to enhance research outcomes from faculty and students. To facilitate the same, the centre has proposed number of initiatives. The facilities are regularly updated to stay advanced.   The Centre aims to encourage research activities through number of promotion initiatives

Summary of Actions and progress

▪ Faculty Research Promotion Scheme (FRPS) 100 Lakhs earmarked for the AY 2022-23. (46 projects at a total cost of Rs.78.74 Lakhs have been sanctioned so far during the current financial year) (Ref: Circular dated 29.06.2022)
▪ Incentive for Web of Science Journal Publications has been enhanced as below

SNO	Quality/Quartile Range	Cash Incentive	
		From	To
1	Q1 - Extremely high quality	₹.15,000	₹.25,000
2	Q2 - High quality	₹.10,000	₹.15,000
3	Q3 - Medium quality	₹.5,000	₹.10,000
4	Q4 - Acceptable quality	₹.2,500	₹.5,000
5	Journals in Web of Science but not in Journal Citation Report (JCR)	-	₹.2,500

3) Financial Assistance for faculty presenting papers in International Conference abroad is enhanced from Rs.1,00,000/- to Rs.1,25,000/-.

4) Financial Assistance for faculty presenting papers in International Conference in India is enhanced from Rs.15,000/- to Rs.20,000/-

5) Circular dated 04.02.2023 has bee notified mandating that each faculty member shall published at least two journal papers per year in refereed journals indexed by Web of Science and Scopus.

PLANNED ACTIVITIES

a) Cluster wise external Research experts as mentors

It is planned to appoint senior research experts from premier Research Institutes/Laboratories to act as Research Mentors atleast one for each Cluster

b) Single database for funding opportunities

External research funding is available from a variety of sources, including government agencies, non-profit organizations, and corporations. It is planned to prepare a Research Funding and Grants Guide to help the faculties identify funding opportunities.

c) Global connect & International grants

To offer specialized joint courses and programmes in collaboration with reputed foreign Universities and also explore the possibility of faculty and student exchange programmes.

d) Faculty Sabbatical to Industry / institutes of higher learning

To propose sabbatical leave for faculties to visit industries / institutes of higher learning to help them acquire additional research know-how and competency in related fields leading to enhanced research outcomes and collaborations.

e) Enhanced research outcomes leading to patents and Commercialization

Presently all the patent application is being processed in expedited mode with BMSCE being a Grant-in-Aid institution. Planned to turn 15 granted patents into commercial products or services.

3) 75% OF FACULTY WITH PHD QUALIFICATION

Presently, the has a total of 384 faculty out of which 253 (66 percent) are PhDs. The institute aims to have/achieve atleast 75% of faculty with PhD Qualification before (2025). The plan may be considered with specific reference to the fact that a total of 24 faculty with PhD Qualification will be retiring on attainment of superannuation from the year 2022 to 2024. To make good, the institute proposes to

a) Continue its endeavour to recruit faculty with PhD from premier institution in specialized area/industry expertise.

b) The institute shall also extend the required support to the registered faculty to complete the PhD.

c) Presently 131 faculty possess M.Tech Qualification out of which 73 faculty are registered/pursuing their doctoral studies. The Institute shall depute more number of faculty to premier institutions to pursue PhD programme

4) IMPLEMENTATION OF NEW EDUCATION POLICY 2020

The National Education Policy 2020 (NEP 2020) outlines the vision of India's new education system and the policy aims to transform India's education system. The college shall chalk out the modalities of its implementation with specific reference to engineering education.

Summary of Actions and progress

NEP Initiatives Achieved:

1) The First-Year curriculum for the batch of 2022-23 has been revised. Programming Language Courses & Emerging Technology Courses has been introduced for first year.

2) Open Electives are offered in AICTE thrust area/identified stream, including Sciences, law and Management.

3) Program electives are offered in identified stream/ specialization/ emerging thrust area of the program.

4) Ability Enhancement Courses on Innovation & Design Thinking, Scientific Foundations of Health, Universal Human Values and Engineering Mathematics concepts using Python are offered.

5) A Sub-Committee comprising of senior faculty members was constituted to formulate modalities for phase-wise implementation of NEP 2020. The First meeting of the Committee was held on 18.10.2022.

NEP Initiatives Planned:

1) Curriculum from second year onwards will be designed as per the needs of NEP-2020
2) Initiate actions to share the examination and credits related matters of students on digital platforms such as National Academic Depository (NAD) and Academic Bank of credits (ABC)
3) In order to Keep Faculty abreast of the new technologies in the respective field it is proposed to introduce Faculty Internship in the industry. A policy in this regard shall be framed.
4) Offering vocational courses through Open Distance Learning (ODL) for skill enhancement of the students
5) To encourage more outreach programmes to connect the students and technologies for betterment of society
6) Conduct more awareness programmes/workshops on NEP 2020 for the benefit of faculty member.
7) To encourage greater number of industry experts to handle subjects to give industry exposure to students at the time of their study

5) INTELLECTUAL PROPERTY RIGHT(IPR) STRATEGY

An Intellectual Property Rights policy is essential for an institute`s growth as it ensures to safeguard the Intellectual property generated by the students, research scholars and faculty of the institute. An IPR policy is the keystone for innovation and creativity for academicians. It provides a structure and framework and aids in nurturing the spirit of innovation and translating them into products/processes. During the year 2014, an IPR Policy Document was published by the Institute for the benefits of the stakeholders. The document was approved by the Board of Governors at its 55th Meeting held on 07.04.2014.

An IP cell in collaboration with KSCST Bengaluru was established on 13th Jan 2021. The cell consists of executive committee members namely Principal, Executive Secretary KSCST, IP Attorney from college, convenor ICRD, IIC coordinator and IP cell coordinators. In addition, an IP cell advisory committee consisting of members from KSCST and faculty nominated from all the departments was constituted.

 The Cell has proposed the following activities during the plan period

- To educate faculty about the procedure of patent filing.
- To create awareness of importance of IP Protection among faculty and students.
- Conduct analysis and assessment of capabilities towards innovation and IP
- To conduct workshops, seminars, Guest Lectures on IPR
- To enhance research and patenting culture at BMSCE
- Commercialization of Intellectual property such as Patents, Copyright, Trademark etc.
- Analysis of innovations and bench marking of best practices of IPR Management
- Any other related functions/duties.

6) ENHANCED INDUSTRY INTERFACE

Summary of Actions and progress

Major Industry Connect activities

1) Industry Institute Interaction Cell (IIIC) established to bridge the gap between industry and institute.
2) Regular Industrial visits conducted. Seminars, symposium, exhibitions and workshops in cutting edge technologies are organised for the benefit of faculties and students.
3) Mutually beneficial MOUs with industry are encouraged to promote consultancy and R & D activities
4) Presently MOUs with industries is 49, Industry Supported Labs is 18 and Industry experts handling courses-42

Major Activities

1) Institute – Industry Connect - PHASE SHIFT- As part of the event, more than 80 industries showcase their expertise and products exhibits. More than 100 plus competitions and 50 plus workshops are conducted.
2) Placement - Industry Connect Meet SAHAYOGA-More than 100 Industry/ Employers participate in this Annual Event. New frontier areas of Engineering and Technology and expectation of the Industry are the main focus
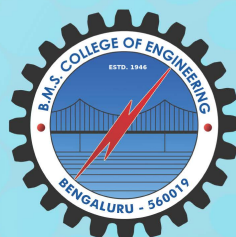
Key Targets & Activities –Industry – Institute Interaction

- Enhance collaborations with the industry. Particularly in terms of MOUs/Linkages, sponsored laboratories
- Organizing Workshops and conferences with joint participation of the faculty and the industry
- More Industry involvement in curriculum design. incorporate their feedback in curriculum
- Organise innovation contests in collaboration with multiple organisations with expert mentors from industry to show-case the talent of students.
- Committee of Alumni from Industry be formed for helping the college achieve futuristic goals set by the industry
- Faculty internship in industry shall be initiated
- To promote revenue generating through activities like Corporate Training etc.
- Involvement of industry personnel for sharing of the courses which are industry specific.