Strategic Plan

Sree Buddha College of Engineering, Pattoor Kerala, INDIA

"Before anything else, preparation is the key to success." *Alexander Graham Bell, inventor*

2016-2021

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College Management

Chairman
Prof. K. Sasikumar

Secretary
Dr. K. B. Manoj

Treasurer
Sri K. K. Sivadasan

Principal
Dr. S. Suresh Babu

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Acknowledgement

We express our deep appreciation and gratitude to the Management, Governing Body members, Alumni, Parents, Deans, Head of Departments, Coordinators, Faculty, Staff and students for their valuable inputs and active participation in preparing the SBCE Strategic Plan 2016-2021.

We profusely thank our honorable Chairman Prof. K. Sasikumar, and Dr. K. B. Manoj (Secretary) and Sri K. K. Sivadasan (Treasurer) of Sree Buddha Educational Society for their valuable guidance and relentless support towards developing this Strategic Plan.

December 2015

Dr. S. Suresh Babu
Principal

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Contents

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1. Preamble

The college has created the strategic plan through a detailed discussion process with stakeholders during the period 2014-2015. Key Institute leaders from the management and faculty representatives were actively involved in the process. A draft strategic plan document with the vision, mission, goals and action items was formulated. The document was discussed in various department faculty meetings and alumni inputs were taken. The document was tuned further to incorporate the inputs received. The revised document was approved by the College Council. The college strategic plan report contains the plan for five years and the actions to be taken. The strategic plan was formulated to achieve the mission of the college and to meet the technical challenges of the new world order.

2. About Sree Buddha College of Engineering

Sree Buddha College of Engineering (SBCE), Pattoor was established in the year 2002. The college owes its existence to the foresight and vision of its founders under the dedicated leadership of the Chairman Prof. K Sasikumar. The college is managed by Sree Buddha Educational Society, a Charitable Institution sponsored by Sree Buddha Foundation, Kollam. A group of educationists envisaged the emergence of a Technical Institute in the rural area of Pattoor, Kerala, which can promote the weaker section of the society by providing quality education at the highest level. The college has highly qualified, committed and well experienced faculty in various fields of engineering, and also has world class infrastructure, well equipped laboratories with modern equipment/instruments, vast library and high speed Internet facility to ensure quality education.

From the beginning, Sree Buddha College of Engineering follows the cardinal teaching of Lord Buddha for educating the whole generation imbued with real values of life. The primary objective of the institution is to promote education and research in the field of engineering and to prepare young citizens of India with the required knowledge, skills and attitude to excel in the field of engineering. The college focuses on the overall development of students, empowering them to face future challenges. The entire SBCE team works towards setting the institution as a centre of excellence.

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श्री बुद्ध कॉलेज ऑफ इंजीनियरिंग
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केरल, भारत

The college is approved by AICTE and affiliated to the University of Kerala since 2002. Presently, the college is affiliated to the APJ Abdul Kalam Technological University (KTU), Kerala. The college offers six Under Graduate and six Post Graduate programs in Engineering. It also facilitates six PhD programs in various specializations. It is one among the top five self-financing engineering colleges in Kerala and the first NAAC accredited engineering college under the University of Kerala.

The college has various committees, including Innovation and Entrepreneurship Development Cell, Placement Cell, and Continuing Education Cell. The students are members of various technical societies and clubs for enhancing their creativity through life-long learning. The college has a strong alumni base spread across India and abroad, and plays a vital role as a key stakeholder of all the programs.

Situated at Pattoor near Pandalam in Alappuzha district of Kerala, the SBCE college campus is a rural area of immense scenic beauty. It is having a lush green and picturesque landscape spread over an area of land overlooking a panoramic lagoon bordered by hillocks. The environment friendly and serene atmosphere of campus provides a refreshing ambience for the mind and soul of the whole community.

3. Vision of the College

Vision of the College is to create professionally competent Engineers with human values and social commitment.

The formulation and implementation of the vision is carried out with the support and involvement of all the stakeholders. The founders and stakeholders of the college have foreseen and formulated the vision of providing skilled and competent rural workforce to the society by imparting quality education and training upholding the human values. They strongly believed that creation of skilled technical manpower would be useful to the community and the graduates would be good citizens of the world. The college promotes excellence and quality in all aspects of education. Outcome based education (OBE) is followed for all programs offered in the college.

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4. Mission of the College

The stakeholders such as Management, Executive Committee, Faculty and Industry representatives actively participated in the process of defining the Vision and Mission of the College. The inputs and suggestions from the stakeholders are always valued for the continuous improvement of the Mission statements.

The Mission of the College is presented in three statements (M1, M2 and M3) which are given below.

M1: Offer well balanced curriculum with student centric approach

The management provides vision and mission to the institution in consultation with the stakeholders and a strong mission will help stakeholders to attain their respective goals. The mission is achieved basically through the process of education, training and research. The following measures are implemented to accomplish the institutional mission:

❖ **Curriculum:** University provides the curriculum. All stakeholders actively participate in curriculum modifications. Various departments conduct gap analysis to bridge deficiencies in the curriculum. As a part of Outcome Based Education (OBE), the Course Outcomes (COs) are redefined by the expert faculty members to meet the predefined Program Outcomes (POs). The Vision and Mission of the College is achieved through various programs offered in the College. The program outcomes are linked to program mission and the program level missions are mapped to the College level Vision and Mission.

❖ **Student Centric Approach:** In the teaching and learning process, always a student centric approach is followed. Weak students are identified and extra support is provided to them, which includes peer discussions and collaborative learning. The students themselves evaluate their progress and try to improve with the help of peers and teachers. Models, charts and industrial visits reinforce the learning activity, and level the learning differences in students. Use of MOOCs and NPTEL courses improves the self-learning skills of the students. Flipped classes are conducted in selected courses.

❖ **Adopting Innovative Processes in Teaching and Learning:** The College encourages innovation in Teaching and Learning. Problem based learning (PBL) and Project based learning (PoBL) are introduced in design related courses.

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M2: Encourage students to participate in innovation, lifelong learning and research

❖ **Innovation:** Creativity and innovation are given due importance in the learning process. Socially and community relevant student projects incorporating innovative designs are encouraged. Many projects got recognition in reputed platforms.

❖ **Life-long learning:** The College takes initiative in providing life-long learning aspects for students in their profession. Every engineering department has student clubs. Newsletters and college magazines are published annually.

❖ **Research & Development:** Research is promoted in the campus and students utilize the modern equipment/ machines and instruments to enhance their research skills in the respective area of specialization. Entrepreneurship Cell in the college supports and gives guidance to aspiring students to establish start-ups after their graduation.

M3: Impart ethical and human values focusing on rural needs and sustainability

❖ **Rural needs:** Since the location of the college is in a rural area, efforts are made to address the needs of the rural society. Periodically technical requirements of the community are identified by the NSS and other student teams and are addressed through projects and community services. These activities enhance the life skills and nurture human values in students, apart from the regular academic accomplishments.

The Vision and Mission of the college are published in various locations and media. Care has been taken to ensure that the message is well received by the students and all other stakeholders. The Vision and Mission of the college are further disseminated in Student orientation programs, Parent Teacher Association (PTA) meetings, Faculty meetings and Alumni meetings.

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5. Core Values

The core values adopted by the college as guiding pillars are: Intellectual Excellence, Accountability, Social Commitment, Transparency and Integrity. Research and teaching are carried out with academic freedom and honesty. The college adheres to the highest standards of ethics in all its activities.

- ❖ **Intellectual Excellence**: The College is committed in imparting quality education for overall excellence through curricular and extracurricular activities. The college recognizes exceptional efforts through awards and honors for the bright students.
- ❖ **Accountability:** Since the college is self-financing, accountability is ensured to all its stakeholders including students, staff, faculty, alumni and industry.
- ❖ **Social Commitment:** Since the college is located in a rural area, it is committed to uplift the underprivileged student community for skills development and employability.
- ❖ **Transparency:** The College functions according to defined rules and procedures. It makes public all important information related to its functioning.

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6. Strategic Plan

The strategic development plan covers seventeen major areas of administration, academics, and research and development. These are discussed below.

6.1 More MoUs with Industries and Universities

Partnership and collaborations in the form of MoUs with industries and Universities are very crucial in today's globalized world. Increased engagement with industries and Universities locally and globally would help SBCE in providing a holistic learning and research experience for its students and faculty meeting the aspirations of its stakeholders.

The following benefits are to be derived through the MoUs with other Universities and industries:

- ❖ To develop academic and technical cooperation and promote mutual understanding between the college and other leading universities

- ❖ Exchange of academic faculty between SBCE and other Universities

- ❖ Exchange of students between SBCE and other universities following AICTE rules and regulations

- ❖ Promote cooperation in the field of student placements and research

- ❖ Conduct collaborative research projects

- ❖ Conduct joint lectures and seminars

- ❖ Organize scientific meetings such as symposia, workshops and conferences

- ❖ Exchange of academic information and materials

- ❖ Promote collaboration in fields of mutual interest

- ❖ Promote other academic cooperation as mutually agreed upon

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6.2 Improved Industry Interactions

The location of the College is rural and there is absence of major industries near it. However, this limitation is to be overcome by the following strategies.

❖ Student internship in core industries

❖ Frequent visits of faculty and students to industries

❖ Collaborated design projects

❖ Industry sponsored research projects by students and faculty

❖ Extending research support to industries in emerging areas

6.3 Start More Student Centers and Enrollment in Professional Societies

More student activity centers should be started and maximum number of students should be motivated to enroll in professional societies. The participation in student clubs and professional societies will enhance the following aspects:

❖ Lifelong learning and continuous improvement in technical knowledge should be instilled in students to be successful in their field of work. This is possible through different student clubs and participation in technical debates, seminars etc.

❖ Active participation in technical clubs enhances the technical knowledge of the students

❖ Allow the alumni to continue using these centers for the technical knowledge build-up

❖ Start an Alumni Club to share the graduates' experiences with students in different programs

❖ Have technical clubs in every department for soft skills and lifelong learning enhancement

6.4 Multidisciplinary and Community Relevant Projects

The rural location of College gives ample opportunity to interact with the communities of the region. The problems and requirements of these communities are to be studied and addressed through technical projects. This will improve the social commitment and service of SBCE.

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6.5 Alumni Funded Laboratories

Alumni are one of the major stakeholders of the college and majority of them are well placed in industries in India and aboard. Alumni achievements have been a source of pride for the college and have contributed significantly to the community.

Interactions with alumni will be further improved during the next five years. Sponsorship from alumni will be generated for establishing modern laboratories in various disciplines.

6.6 NBA Accreditation and NAAC Reaccreditation

All the six UG programs in engineering of SBCE will seek NBA accreditation. Committees will be formed to study the **NBA** accreditation requirements. SBCE academic departments will prepare the SARs and will be submitted during this strategic period.

The **NAAC** reaccreditation has to be done in the year 2019. All efforts will be made systematically to achieve maximum score in the accreditation process.

ABET accreditation for major programs will be sought after the NBA accreditations.

6.7 Initiatives to Improve Social Responsibility and Commitment

Proactively engage in the community service and contribute towards their social, cultural and economic development. Provide awareness among school level students about engineering education and nation building.

6.8 Broaden Specializations at All Levels of Engineering Studies

Specializations in engineering education will be attempted at all levels. New programs in trending areas will be introduced with the approval of KTU. This will enable us to reach new generation of students and develop educational programs that go far beyond traditional degree programs.

6.9 Increase in PhD Scholars for All Programs

More students will be enrolled for PhD in all disciplines. The college will provide support to students and faculty to present their research in international and national conferences, and will

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Pattoor, Alappuzha District
Kerala, INDIA

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पट्टूर, अलापुझा जिला
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encourage conduct of conferences with a strong research focus in the campus. Research will be improved in all engineering specializations. SBCE will support setting up of major research facilities which are useful to faculty and students from all departments.

6.10 Recruit and Retain Qualified Faculty

Merit based hiring policy formulation and implementation will be adopted strictly.

Career Advancement Schemes will be introduced for the best performers. Critical talent identification and retention measures will be initiated.

In order to retain faculty, more facilities will be provided as mentioned below.

- Best work facilities and infrastructure
- Role and responsibilities with clarity and empowerment
- Online access to Library and journals.
- 24 hours free high speed Internet access
- Sponsorship/ Deputation, sabbaticals for higher education
- Exchange programs
- Sponsorship to participate in national /international conferences
- Deputation to premier national /international Universities/industry

6.11 Core Sector Placement

Efforts will be made to enhance core sector placements. Placement trainings will be given from the second year onwards. Leading trainers and motivators will be brought to the college for seminars and workshops. Alumni employed in core sector industries will be brought to interact with the students. GATE training classes will be offered. Zero failure policy will be implemented.

6.12 Modernization of Laboratories

Skill enhancement in dealing with modern equipment is a part of engineering education. Obsolete equipment/machines/instruments will be identified and replaced with modern systems. New software systems will be introduced and the old ones will be upgraded.

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All required latest equipment/machines/instruments as mentioned in the KTU syllabus will be procured and adequate training will be given to faculty and staff in operating and maintaining it.

6.13 Infrastructure Development

As the college is expanding in number of students, faculty and staff, infrastructure should be improved. Measures will be taken to introduce more infrastructures to accommodate the increased intake. Also new facilities will be provided for setting up modern labs.

6.14 Upgrade IT Requirements (Hardware and Software)

The old model of teaching in the same place at the same time is now being extended in our massively connected digital world. High-bandwidth communications, data storage and rendering that span the globe allow us to port the traditional classroom experience across distance and time.

In order to be a part of the connected digital world, high speed Internet and advanced software in all departments and campus will be installed.

Continuous improvement in all aspects of programs is an essential part of keeping the programs abreast and acceptable to the stakeholders. Embedding the up-to-date and appropriate software in all courses is highly required.

Latest licensed versions of software like Solidworks, Pro-E, Catia, Inventor, AutoCAD, MSC ADAMs, EEES etc. will be installed in appropriate labs to support student learning, research, community training and industry interactions.

6.15 Hire Adjunct Faculty

Adjunct faculty appointment procedures will be followed as per the AICTE rules and guidelines. The adjunct faculty can be either from the teaching profession or from industries.

❖ **Academic Faculty:** Faculty exchange programs with leading Universities will attract visiting faculty to SBCE. It can facilitate exchange programs with foreign Universities having highest world ranking.

Sree Buddha College of Engineering
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❖ **Industry Adjunct Faculty:** SBCE will make use of its relationships with industry and its alumni network to bring in professionals from the industries as adjunct faculty, especially entrepreneurs who are successful in their ventures.

6.16 Sustain a Clean and Green Campus

The most distinctive characteristic of the college is its ideal serene waterfront location by the side of a 1000 acre wetland surrounded by thick vegetation.

The college is committed to develop as a model clean and green campus. It promotes sustainable practices and maintains the flora and fauna of the campus. Increased use of renewable energy, improved solid waste and waste water management systems, reduced paper usage and increased recycling will make the campus more environment friendly.

The campus will strive towards reduced energy and carbon footprint, and a zero discharge campus. The college will work together with the panchayath authorities and the local community to maintain and improve the health of the adjoining wetlands (Karingali Puncha).

6.17 To Become Autonomous

All efforts will be made to make SBCE an autonomous institution. The necessary requirements to achieve this are seriously studied and will be looked into during this period (2016-2021).

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पट्टूर, अलापुझा जिला
केरल, भारत

7. Conclusion

SBCE is responsible to provide quality education and skill development in the fields of Civil Engineering, Computer Science and Engineering, Biotechnology and Biochemical Engineering, Mechanical Engineering, Electrical and Electronics Engineering and Electronics and Communication Engineering. It is committed to mould high standard professionally trained graduates needed for the industries in India and abroad. Furthermore, various departments stimulate the desire in students to continue their academic studies leading to higher degrees of learning.

All departments should be aligned with SBCE in serving the local community and industrial sector needs. The business plan of departments must satisfy the SBCE policies. The key performances of this plan should match with the strategic plan (2016-2021) of SBCE. Finally after implementation, the following should be achieved.

- ❖ Improve internal cost efficiency
- ❖ Increase stakeholders' satisfaction
- ❖ Attract and retain the right people

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पट्टूर, अलापुझा जिला
केरल, भारत

8. Implementation Schedule

Time Table for implementing the main objectives/initiatives in SBCE Strategic Plan 2016-2021

Goals	Strategic plan	Est. Period No. of months	Years 2016-2021					
			2017	2018	2019	2020	2021	
			1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	
	6.1 More MoUs with Industries and Universities		Sign MoUs					
	6.2 Improved Industry interactions		Internships					
	6.3 Start more student centers and enrollment in professional societies		Announcement	Admin Recruiting Process				
	6.4 Multidisciplinary and community relevant projects		Prepare project handbooks	Offer relevant projects				
	6.5 Alumni funded Laboratories		Establish new labs			Update the items		

SBCE Strategic Plan 2016-2021

17

Dr. S. SURESH BABU
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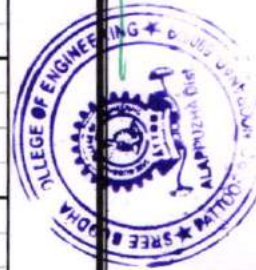PATTOOR P.O., NOORANAD
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पट्टूर, अलापुझा जिला
केरल, भारत

Goals / Strategic plan	Est. Period No. of months	Years 2016-2021
6.6 NBA Accreditation and NAAC Reaccreditation		NBA Accreditation (2018); NAAC Reaccreditation (2019); ABET Accreditation (2020)
6.7 Improve Social Responsibility and commitment Initiatives		
6.8 Broaden specializations at all levels of engineering studies		
6.9 Increase in PhD holders for all programs		
6.10 Recruit and retain qualified Faculty		
6.11 Core Sector Placement		

(Year columns: 2017, 2018, 2019, 2020, 2021 — each subdivided into months 1–8)

SBCE Strategic Plan 2016-2021   18

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केरल, भारत

oals	Strategic plan	Est. Period No. of months	Years 2016-2021																																						
			2017								2018								2019								2020								2021							
			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
	6.12 Modernization of laboratories																																									
	6.13 Infrastructure development																																									
	6.14 Upgrade IT requirements (Hardware and software)																																									
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SBCE Strategic Plan 2016-2021

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