ANNUAL REPORT 2017 -18

KLE Technological University

KLE TECH

KLE Technological University

Creating Value
Leveraging Knowledge

Vidyanagar
Huballi (India)
www.kletech.ac.in

Our Parent Organization:

Karnataka Lingayat Education Society (KLE Society)

Initiatives by private organizations and dedicated individuals have played a critical role in the growth of higher education in India. In 1916, a dedicated group of individuals enabled a dream. Their vision was to create a strong education base in the neglected areas of North Karnataka and Maharashtra. This resulted in establishment of KLE Society on 13th November 1916 at Belgaum. This Society was started by seven dedicated teachers and three generous patrons. Their mission was to provide education, basically to the children of the farming community who constitute a significant majority in Karnataka. With the strong support by philanthropists and intellectuals of the area, the KLE Society started to grow, and today, it has become an important entity in the educational scenario of the country.

Apart from establishing educational institutions, the KLE Society has earned the distinction in the field of health care and other community services. It has entered into collaboration with universities abroad in USA, UK & Malaysia. Through its 264 institutions, KLE Society is rendering services in the areas of:

- Health Care and Medicine
- Engineering and Technology
- Management Studies
- Agriculture
- Arts, Science and Commerce
- Teachers training
- Primary and secondary education
- Law

With a visionary leadership of Chairman Dr. Prabhakar Kore, and members of Board of Management, the society's institutions serve more than 1,25,000 students. Over 16,000 dedicated faculty and staff work together to meet the high standards set by the management.

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Foreword

We are proud to present the third annual report of KLE Technological University, Hubballi, for the year 2017-18. This report summarizes the achievements and progress we have made over the last year to improve our academic offerings and student services.

Our faculty is making progress towards providing a truly world-class learning environment by adopting holistic curricular reforms and innovative pedagogical practices. We are working hard to create a dynamic research environment to promote research excellence. This year, we embarked on a significant examination reform initiative that has been recognized by the AICTE and asked our team to spread it across the country.

We would like to extend our sincere thanks to our faculty, staff, students, alumni and industry partners for their continued support and remarkable contributions. Looking ahead, we will continue to work towards realizing our vision to be a leader in engineering education, and advancing research and innovation to support socio-economic development of the region.

Dr. Ashok S. Shettar
Vice Chancellor

Dr. Prabhakar Kore
Chancellor

Introduction

Creating Value
Leveraging Knowledge

KLE Technological University (KLE Tech) has its roots in one of the premier engineering institution of Karnataka, B. V. Bhoomaraddi College of Engineering and Technology, Hubli (BVB). The founding organization KLE Society, Belgaum, established BVB College in 1947 with an aspiration of creating an institution that would lay the foundation of modern engineering education in northern region of Karnataka. Over the years, it evolved to reach and hold a unique position of pride in the technical education system of India. As we entered into the 21st century, the college undertook comprehensive reform process to adapt to the challenging global engineering education scenario. In pursuit of academic excellence, the College attained academic autonomy from University Grant Commission (UGC) in the year 2007. As an autonomous College, BVB established its distinctive character in the academic space through its curriculum and outstanding student experience. Over the time it gained tremendous credibility with the industries and employers and emerged as a brand to reckon with. The Alumni of the Institute have done exceedingly well in all spheres of life at both national and international levels and brought name and fame for themselves as well as to their Alma Mater.

The times have changed, and the higher educational institutions need to continually innovate to maintain and enhance their relevance to meet the ever changing demands of global economies. Apart from delivering good quality education, the institutions are expected to develop their capacity in research and innovation. They also need to undergo a fundamental transformation in terms of their role in the society, mode of operation, and economic structure and the scale at which they operate.

Keeping the above challenges in mind BVB College of Engineering and Technology, undertook strategic initiative of transforming itself into a University of national distinction. In 2014 the College was recognized as a state private University by Government of Karnataka. The rich heritage of BVB College as one of the best engineering college combined with brand equity of KLE Society are the starting points for KLE Technological University to emerge as a University with a national distinction.

Student Enrollment

Admission Process

The University does not conduct a separate test for the admissions. The admission to the programs of University is based on the Government of Karnataka rules for professional education institutions. The following is the mode of selection of students for admissions (as per rules of Government of Karnataka).

1. Common Entrance Test (CET) by Karnataka examination Authority (KEA): Admission to 40 % of seats are done by government of Karnataka based on CET ranking and reservation policies of the state. The seats are distributed through central counseling done by KEA. For the aided intake the 95% of the seats are allotted by the KEA. Equal weightage is given to score in CET entrance test and qualifying examination score, while allotting the ranks.
2. All India Examination conducted by the Consortium of Medical, Engineering & Dental Colleges of Karnataka (COMED-K): Admissions to 30 % of seats in unaided courses are done on the basis of COMED-K-rankings. The seats are allotted by COMED-K through central counseling. Equal weightage is given to score in COMED-K entrance test and qualifying examination score, while allotting the ranks
3. The remaining 5% seats in aided courses and 25% seats in unaided courses are filled as management seats on the basis of academic records of qualifying examinations.

   For post graduate programs, Post Graduate Common Entrance Test (PGCET) conducted by Karnataka examination authority, is used for the selection of students.

Undergraduate Programs

Sl.No.	Programme	Sanctioned Intake
1	Civil Engineering	**120**
2	Mechanical Engineering	**240**
3	Electrical & Electronics	**120**
4	Electronics & Communication	**240**
5	Computer Science & Engineering	**240**
6	Automation & Robotics	**60**
7	Bio Technology	**60**
8	Architecture	**60**
		1140

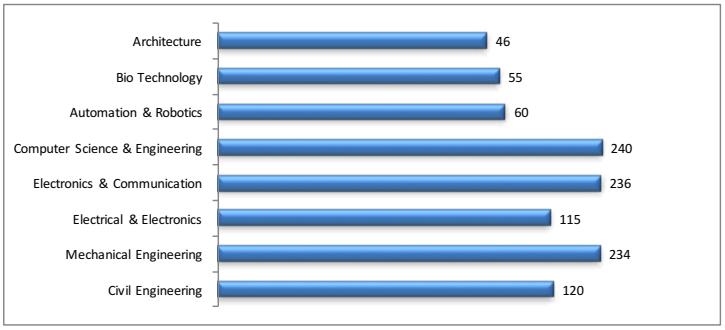
Postgraduate Programs

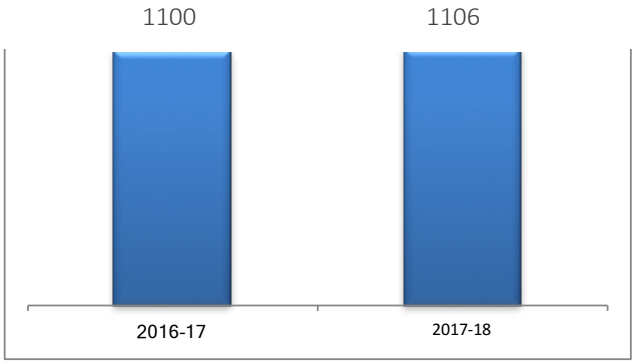
Sl.No.	Programme	Sanctioned Intake
1	Structural Engg.	**18**
2	Production management	**18**
3	Energy Systems Engg.	**18**
4	Computer Science &Engg.	**24**
5	Digital Electronics	**24**
6	VLSI Design & Testing	**24**
7	Machine Design	**24**
8	Master of Computer Application	**60**
9	Master of Business Administration	**60**
		270

Research Programs

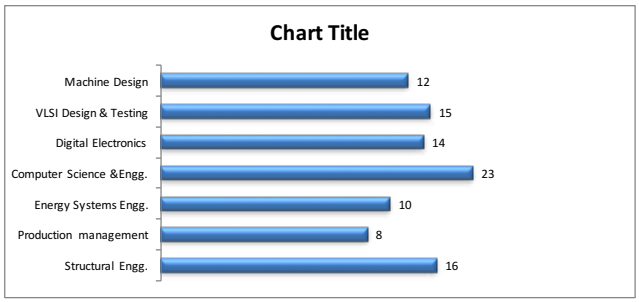
Sl.No.	Programme
1	School of Civil and Environmental Engineering
2	School of Computer Science & Engineering
3	School of Electronics and Communication Engineering
4	School of Mechanical Engineering
5	School of Management Studies and Research
6	Department of Electrical and Electronics Engineering
7	Department of Humanities & Social Science
8	Department of Biotechnology
9	Department of Physics
10	Department of Chemistry
11	Department of Mathematics
12	Center for Engineering Education Research

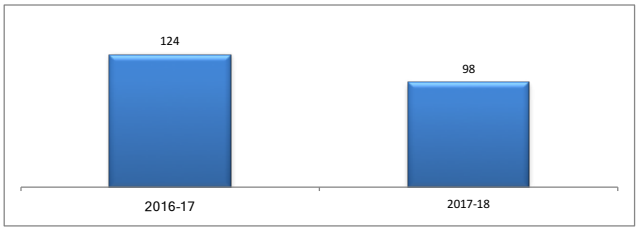
Student admissions for the year 2017-18- UG

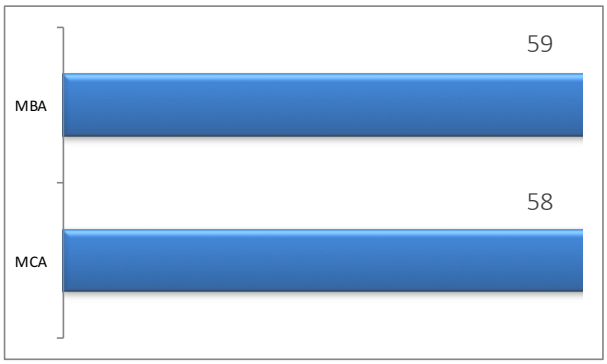


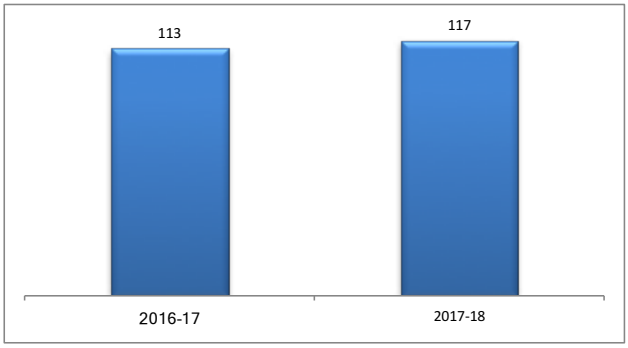


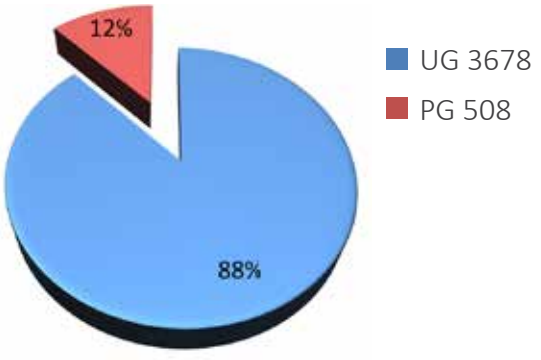
Student admissions for the year 2017-18- PG



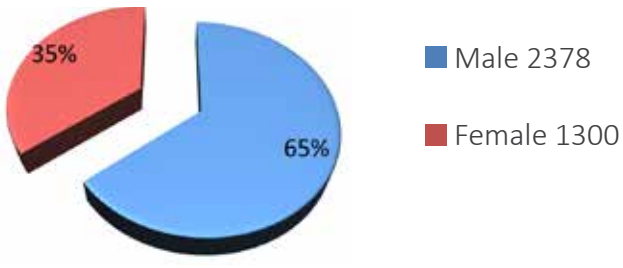








Student Enrollment 2017-18



Student Gender (UG) 2017-18

Academic Quality

Engineering education is going through a profound transformation driven by the new realities and opportunities created by the global knowledge society. To ensure the fitness of higher education system to negotiate new challenges, adaptation of proper academic frameworks and strategic interventions are necessary. Outcome Based Education (OBE) framework has emerged as a major reform model in the global engineering education scenario and has been mandated for accreditation of engineering programs for the Washington accord signatories. The OBE approach is based on a student centered learning philosophy and focuses on the output (outcomes) instead of the input (content). KLE Tech reform process by adopting OBE framework. The framework gives us an opportunity to build a culture of continuous improvement that strengthens our academic quality and inspires student achievement.

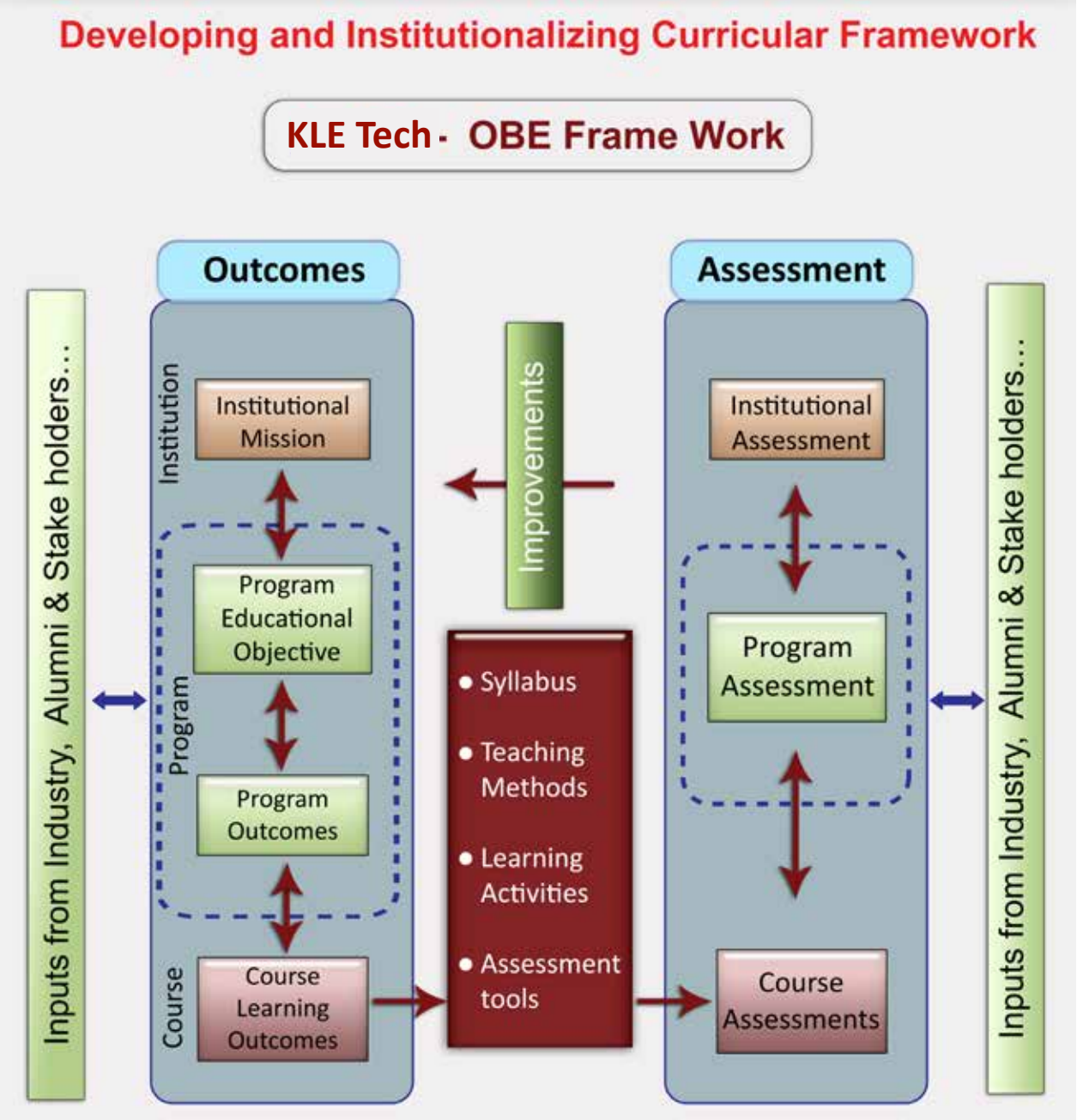
The initiatives undertaken to enhance the quality of education and student performance are presented under following three tenets of academic quality

- Advances in Curriculum
- Faculty Development
- Student achievements

Advances in Curriculum

The curriculum of all the programs offered by KLE Tech are designed understanding the expectations of the stakeholders. Outcome Based Education (OBE) framework is used to design the curriculum. Each program has formulated Program Outcomes (POs) in line with Graduate attributes of NBA. These POs describe what students are expected to know and be able to do by the time of their graduation. These POs relate to the knowledge, skills, and behaviours that students acquire as they progress through the program. The courses designed for the programs are aligned to the expectations of POs.

Learning experiences in each of the programs are created focusing the millennial learner. Problem solving skills, research and entrepreneurship are embedded in the curriculum through a host of program core, program elective and open elective courses. Active, blended, collaborative, experiential and project based learning (PBL) practices are used bringing student to the centre of teaching – learning process. Assessment and evaluations are done aligning to learning outcomes to inform both the learner and the system. The frame work adopted by the University is depicted in the Figure below.



Major Academic initiatives Undertaken:

During the academic year 2017-18 following are the major academic initiatives undertaken to improvise the teaching and learning process.

School of Computer Science and Engineering

Algorithmic Problem Solving

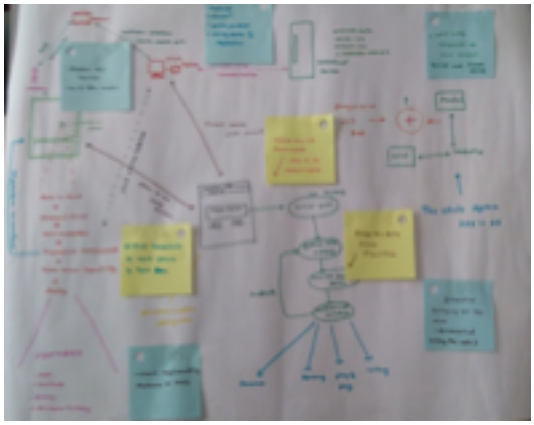
A six credit competitive programming course was introduced at sixth semester level to hone the programming skills and go beyond the traditional thinking. While most companies have now started hiring through online coding platforms, many most others are moving towards it. Excelling in competitive programming, making programming as a daily habit, approaching the expertise by solving challenging problems, and working in constrained environment were the major objectives with which the course was introduced.

The course was conducted on HackerRank platform including the minors and semester end exam. The course had lecture sessions, discussion and coding in each of the three hours classes which was scheduled twice a week. University CodeSprint 04 was evaluated as minor 01 for students. A total of 5415 participants participated all over the world. 86% of our students were in top 25% in the contest. The class had bagged two silver and 31 bronze medals. World Code Sprint 13, a 2 day coding contest, hosted on HackerRank was semester end examination for the course. A total of 4126 participants participated in the contest. 100% of our students were in top 25% in the contest who secured bronze medals.

Infosys conducted HackWithInfy, a nationwide competitive programming contest where 7 of our students have been offered with various Programmer roles. 3 out of 7 have been offered with 8L offer and 5 out of 7 students are from APS course.

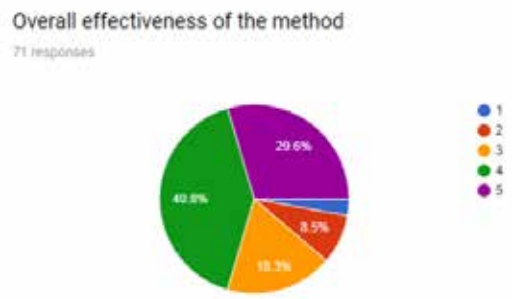
BluePrint Pedagogy for Mini Project + Software Engineering

The primary objective of software engineering is to demonstrate competence in communication, planning, analysis, design, construction and deployment of a product life cycle. Theories, models and techniques are the foundational basis in a software lifecycle.



When a product goes into design and implementation, it comes with challenges namely: how well are the requirements understood, are the designs and conceptualizations in-line with requirements and how easily a future requirement can be embedded into the system. Over time, these challenges have been tackled through various methodologies. We introduced – 'BluePrint' pedagogy, which adapts the design thinking methodology to achieve the said challenges.

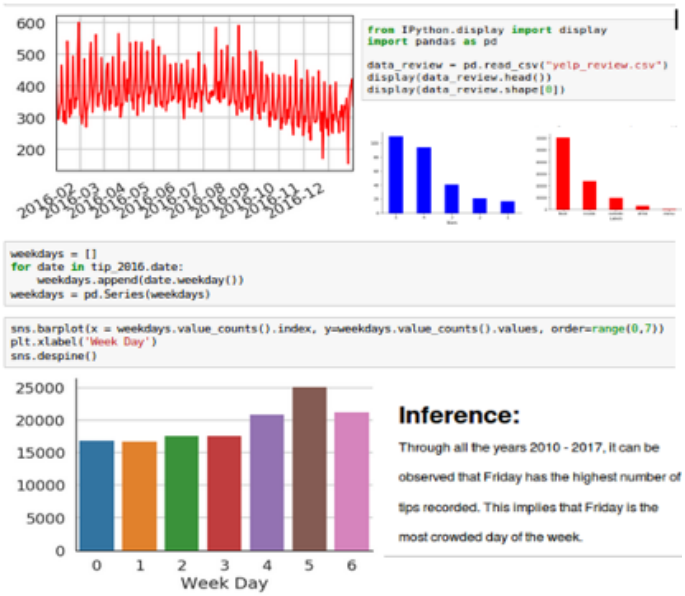
Through BluePrint Method, the initial brainstorming of design, functionality, flow, process and user interface of the selected problem happens on A4 paper sheets - all hand drawn (using pencil, eraser, ruler). The hand drawn designs are re-iterated until a satisfactory model is reached. The final model is then transferred into documentation using Software Engineering principles and tools. The first hand made draft and the subsequent process of reading through and interacting with the design by annotating, correcting, editing, and reshaping it as a whole is a major advantage as against typing where instead we edit as we go which potentially interferes with the organic flow of ideas. Hand drawing can help us slow down and fully engage with our thoughts. Thoughts need to breathe and drawing by hand conveniently holds such a space for thoughts to fully form before being set down into a holistic form.



A faculty workshop was conducted to train on 'BluePrint' so that they can carry over the method for the guiding student teams. The team from Accenture visited the studio mode labs and appreciated the design thinking process introduced into the project lab. They as well carried back a copy of BluePrint handouts provided to students. Akamai and other companies, which came to hire have appreciated the student's comprehension capabilities over the projects carried out.

The overall effectiveness as stated in student feedback of the method can be seen beside. Students rated between 1 to 5 where 1 being the lowest and 5 being the highest.

Machine Learning



In order to meet the industry demands of data exploration, data mining and analysis and data visualization, Data Mining and Analysis course was introduced with real time data analysis challenges where students had to pick online challenges for course project. A sample project analysis can be seen in the picture. Considering this, Machine learning course was designed to further enhance the projects with supervised, unsupervised and reinforcement learning. Laboratory was designed to train and use the Machine Learning tools and techniques where students apply the concepts of regression, classification and reinforcement learning for the real world example. The course knowledge was further extended to project level. The mini projects that were carried out were on the domains : Indian digital heritage projects (government funded), blind spot detection, plagiarism detection, pot hole detection. The minor project student teams were able to create a crowd source platform and run classification algorithm to store and retrieve heritage images, to name some. The projects carried out led to publications as well. Sample other projects carried out are: Plagiarism Check using Robin Karp algorithm and SVM, Developing an model to predict and classify the heritage images with appropriate labels (Multi class), Road Fighter games using Reinforcement & Q Learning, Image prediction using CNN etc.

School of Electronics and Communication Engineering

Automotive Electronics Initiatives

School of ECE offers automotive electronics as one of the application course to strengthen Embedded Systems vertical. It has a vibrant collaboration with industry giants namely RBEI (BOSCH), and KPIT for course design and delivery. In automotive electronics the evolving technology now-a-days is focused on Model Based Design (MBD) with its application ranging from control prototyping to a system modeling, simulation, and synthesis paradigms. MBD simulation is part of "V" design model which is used for developing functionalities of automotive ECUs. This industry specific technology is introduced at third year of engineering. The theory and laboratory components of the course are designed in such a way that the functionalities of an automotive application are built using model based design approach. The course includes a platform for state-of-the art engine-in-the-loop (EIL) simulation facility for system-level experimental evaluation of power-train interactions. The outcomes of the activity are measured by industry specific rapid prototyping skills demonstrated by the students. MBD technique incorporated in automotive electronics course has contributed in making students industry ready. This has led to increase in placements by the companies in the field of automotive electronics in Bosch, KPIT, Continental and Delphi, this has also enabled RBEI to award the college with highest number of placements across India in 2018-19. Students actively participate and win prizes at the national level competitions like KPIT Sparkle and Bosch Inscribe, which foster innovation in them.

Embedded Systems Initiatives

Embedded Systems is one of the major vertical in Electronics and Communication Engineering supported by relevant courses and projects at multiple levels. Students are well exposed in the embedded system verticals with industry supported labs, courses as well as industry guided projects for designing real time embedded systems.As embedded systems became bigger, intelligent and complex, millions of lines of code are to be optimized to meet system deadlines, fit into the available memory, and meet power requirements to achieve the desired functionality. Developing such embedded system, to meet multiple design constraints is a considerable challenge. In order to meet this challenge code optimization techniques at multiple levels are introduced in curriculum focusing on machine dependent and independent optimizations. Architecture specific machine dependent optimization techniques are addressed at lower level courses like 8051 Microcontrollers and ARM processors, while machine dependent and independent optimization techniques are addressed at higher level courses like Real Time Embedded System and Course Projects. This exposure enables our students to be prepared for industry requirements and challenges, and has resulted in increased placements in embedded industries.

VLSI Initiatives @ KLE Technological University

To meet the contemporary demands of semiconductor industry, KLE Technological University (KLE Tech) has undertaken an initiative to create specialised talent pool in the areas of digital and analog VLSI. The focus of the initiative is to reform the curriculum and learning experience to enable the graduates to be industry ready.

Collaborating with experienced personnel from VLSI industry and IESA, reorientation of curriculum from foundational courses to advanced courses has been undertaken. Special emphasis is on project based learning wherein students gain proficiency in industry- standard state-of-art VLSI EDA tools while solving problems relevant to the industry.

These initiatives are driven by joint group of experienced faculty, under the mentorship of industry experts

• Dr. Anand Bariya, Sr. Director at Broadcom, Ex Managing Director at NetLogic Microsystems

• Shri Shripad Annigeri, Ex- director Mega chips, Consultant in VLSI Industry.

• Mrs. Poornima Mohanachandran, Director Eklakshaya.

Program Electives in VLSI stream handled in collaboration with industry

• Analog Circuit design and Layout

• Analog and Mixed Mode Circuits

Collaboration with Sankalp Semiconductors

• Advanced Digital Logic Design

• Advanced Digital Logic Verification

Collaboration with SEER and IESA

• CMOS ASIC design

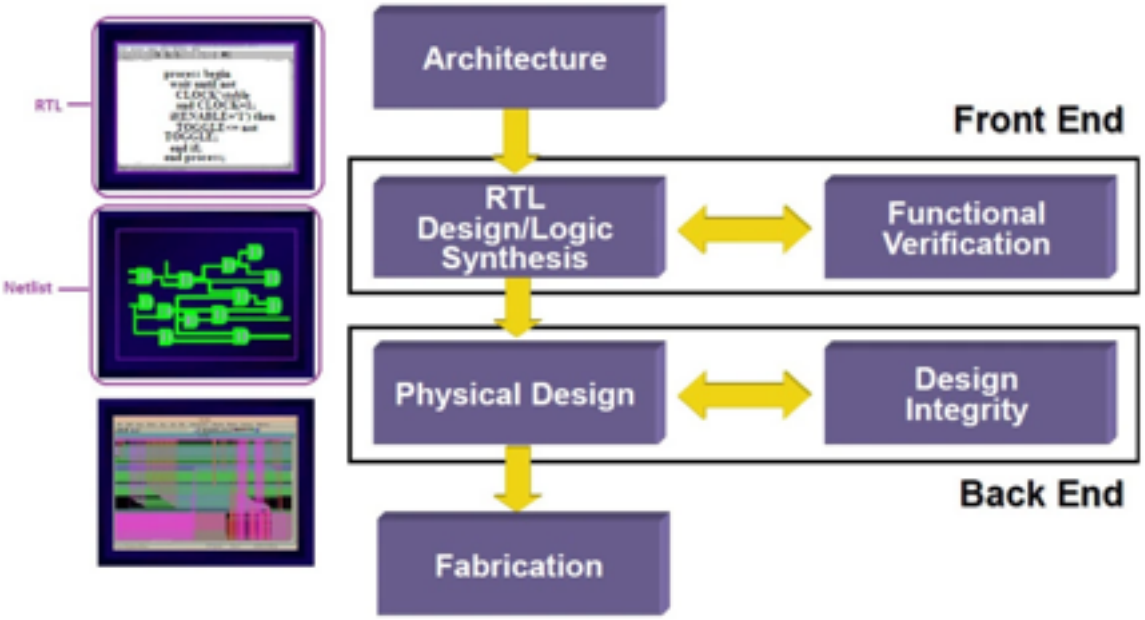
Co-teaching by Dr. Anand Bariya and in-house faculty

• Physical Design- Analog

Co-teaching by Eklakshya and in-house faculty

Chip Initiatives @ KLE Technological University

To get an industry like experience of complete chip creation, from concept to post silicon testing, selected students undergo close to two years of professional exercise., As part of this initiative, a Tri partner agreement between KLE Tech., IESA and SEER, University has enabled design a program to create a, mixed signal IC- Elapsed Time Counter in UMC 0.18µm technology, under the guidance of faculty and industry experts.



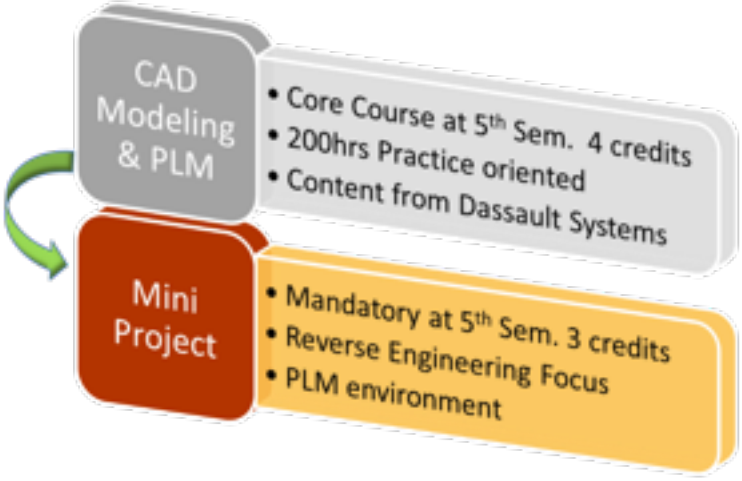
School of Mechanical Engineering

The School of Mechanical Engineering has recognized changing trends and ventured into number of new initiatives to overcome the gaps that exist in the curriculum. The pedagogical initiatives relate to new courses developed by School of Mechanical Engineering in collaboration with leading industries to impart employment linked specialized knowledge and skills through design thinking led innovative curriculum interventions for assured campus recruitments.

A glimpse of the course designed to be part of the curriculum is indicated below.

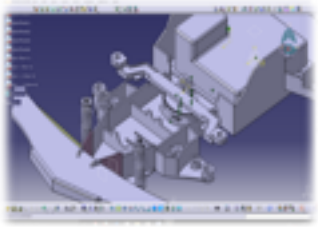
Project based Experiential Learning

CAD Modelling & PLM

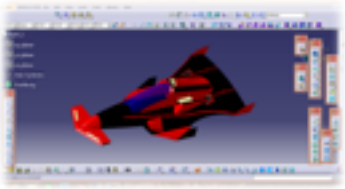


CAD Modelling & PLM

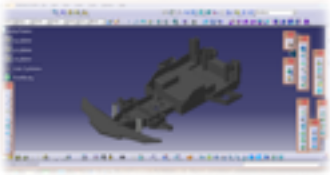
Reverse Engineered Products



Steering parts assembly

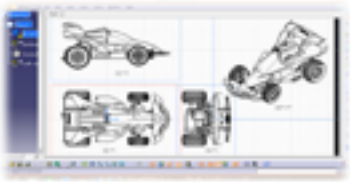


Outer aerodynamic body frame



Chassis part body

F1 RACING CAR



Assembly Drafting

Model building in collaborative Environment

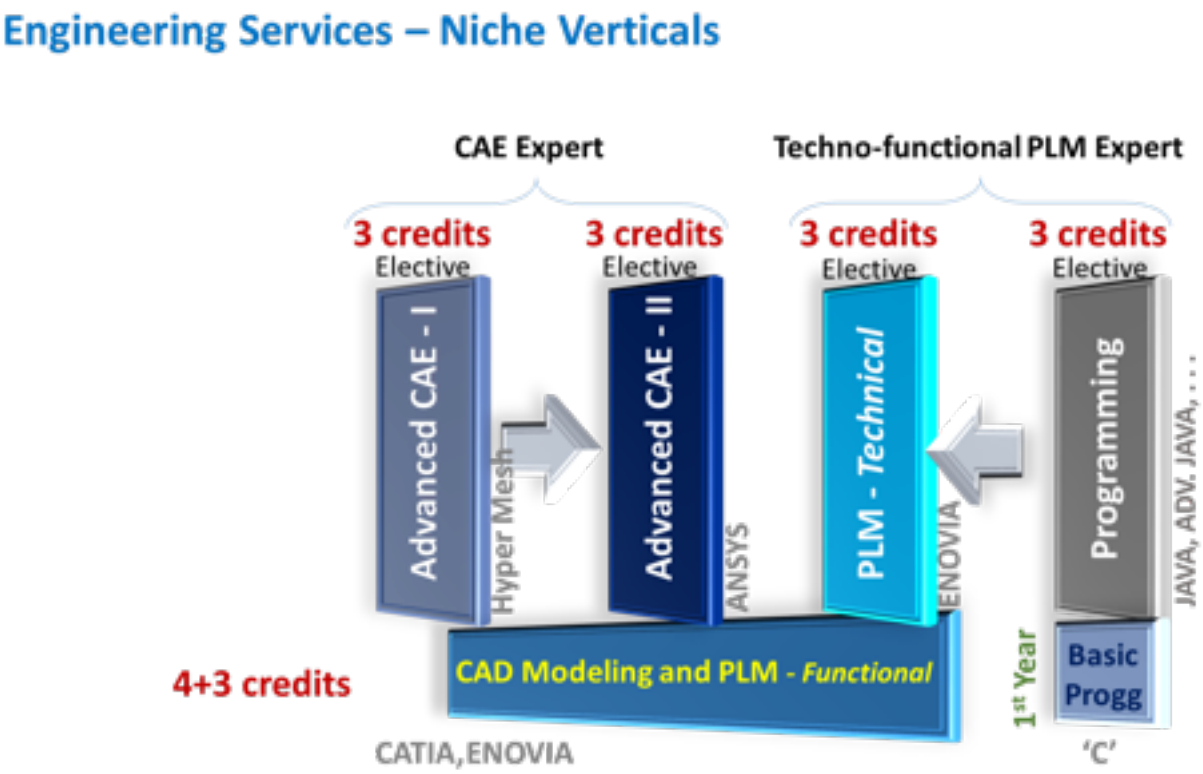
Chassis Assembly

CAD model

The students who have undergone the course have expressed their appreciation for unique experience they gained during problem solving in a collaborative environment. About 80% of the students expressed that the course significantly improved modelling and analysis skills in an integrated environment.

Engineering Services – Niche Verticals

The Engineering Services is one such sectors with promising employability index to competent engineering graduates. The courses are developed in niche areas of this sector in modelling, analysis & simulation for product innovation. The focus was to develop a single, easy-to-use, 3D-design, analysis and simulation environment with features of being collaborative and interactive interface to develop industry solutions. Product lifecycle management (PLM) poised to become a major functional discipline fosters integration and promotes efficiency in future factories that would work on increasingly complex and customized products. These attributes of PLM made it an obvious choice for our student needs that lead to adopt a PLM-centric approach platform for our curriculum innovation.



Course: Advanced CAE

160 hours of extensive hands-on training Associated Project work on Industry Cases

Tools: HyperMesh and ANSYS

Specialist in Complex Problem Analysis & Solving using FEA concepts

Course: PLM - Technical

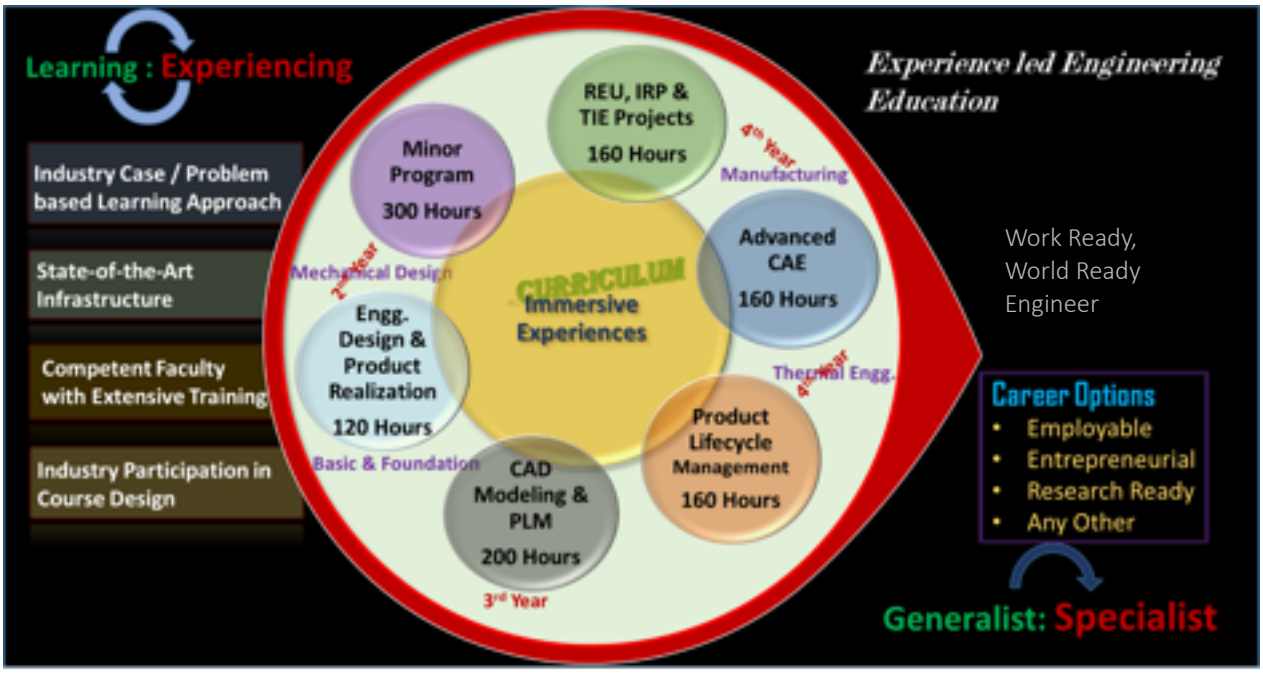
160 hours of extensive hands-on training Associated Project work on Industry Cases

Tools: ENOVIA

Specialist in PLM - Customization, Configuration and Integration

Learning to Experiencing Engineering

The courses in niche areas are developed to provide immersive learning experience to students and augment them with the skill sets that are in demand in industry. The University has invested judiciously on infrastructure development, faculty training and engagement of industry experts in structuring the courses, pedagogy and assessment.



Minor Program in 'Advanced Manufacturing for Aerospace Applications'

15 credits, 5 courses + Final semester project in an Aerospace Sub systems' Manufacturing Company

India's fast growing civil aviation sector offers tremendous growth prospects for the aerospace industry in the country. While the Indian automobile industry and the space industry have done quite well, aviation-based manufacturing has lagged woefully behind. Seeing an opportunity here, the School of Mechanical Engineering has collaborated with AEQUS – a leading Indian aerospace sub systems' manufacturing company, located in SEZ, Belgaum to strengthen specialized skills through a Minor program in 'Advanced Manufacturing for Aerospace Applications'. Students spend about 1/3rd of their course duration on AEQUS campus to acquire real-time exposure to advanced processes, tooling and standards. Experts from AEQUS engage students through course offerings along with faculty members from the School. A 3-axis CNC VMC by DMG-MORI, Japan is procured to help students practice gaining experience in an industry like environment. AEQUS has also offered internship and project work during eighth semester for the students who have successfully completed the minor program. This initiative is expected to enhance the employability of our students in the field.

DMG MORI make, CMX 600V Vertical Machining Centre With 3D-control HEIDENHAIN TNC 620 with ASCII keyboard (15" TFT) Control System.

aeroKLE – Aero Modelling Club

Our team of 18 students drawn from first year to final year representing different disciplines participated in national level SAE India Aero Design Challenge 2018 competition. The debut team positioned 8th in the overall ranking tally in the country, is highly motivated to excel its performance in coming years.

SAEINDIA
AERO DESIGN CHALLENGE 2018

Best Technical Presentation – All India 2nd Rank

Department of Electrical & Electronics Engineering

Curriculum structure of Department of Electrical and Electronics Engineering is designed to have three specializations which are relevant to current industry requirements and to maximize student placement opportunities. They are: 1. Embedded Systems, 2. Power Electronics & Drives, and 3. Modern Power and Energy Systems.

Flipped classroom describes a reversal of traditional teaching where students gain first exposure to concepts outside the classroom through lecture videos. Conventional lecture hours are used for discussion & problem solving of concepts learnt through videos. It promotes student centred learning and collaboration. This concept is being used to teach two courses in the department.

'Engineering Design' course is being offered to Mechanical and Electrical domain students at the sophomore level has been restructured to offer product development experience in an inter-disciplinary environment. It give students a flavour of the design process to solve ill-structured real-time problems. Since its inception, the class is evolved over the years to become an interdisciplinary course in 2017-2018. PCB design software like ORCAD, Eagle and Proteus are introduced to students to build reliable electronic designs. Also, students are trained to perform co-simulation using software like LabVIEW and SolidWorks across the departments. Further, product realization course is delivered in the fourth semester to complement the learnings of the design process in the third semester.

A good algorithm usually comes together with a set of good structure that allow the algorithm to manipulate the data efficiently. Data Structure using 'C' is introduced to sophomore students. This course will help students to understand what is going on inside a particular built-in implementation of a data structure. Students learn these data structures with hands on experience implementing them and applying for real world problems.

To cope with industry requirements Machine learning, being one of the areas of Artificial Intelligence, is introduced as a part of curriculum for the 3rd year students. Machine Learning is the basis for the most exciting careers in Data Analytics today. Students learn the rudimentary concepts and apply them to typical real world problems using Python Stack.

The explosive growth of Internet of Things (IoT) is changing our world. A course on Internet of Things covers basic concepts of networking for building the base of IoT and some aspects of embedded systems, Raspberry Pi platform, and the Arduino environment for building devices that can control physical world. Students demonstrate these learned skills by designing and building an embedded product in the course project.

Learning from textbooks, lectures and other study material does not suffice for holistic learning. Practical, hands-on learning are essential for better understanding of work processes and business functions. Industrial visits give greater clarity about important engineering concepts, as students practically experience how these concepts are put into action. In view of this background various industry visits were organized by the department for students of all semesters like Nuclear Power Plant Kaiga, Hydro Power Plant Dandeli, 220 kV Sharavati Receiving Station, Hubli, Diesel Loco Shed Hubli, Kirloskar Electric Company, Hubli and Solar Photovoltaic Power Plant at Chikkodi, Belgaum District.

Placement

Placements were good for the year 2017-18. Core companies recruited large numbers.

Robert Bosch recruited 69 , which was among highest in India. College was given special award by Robert Bosch for the same during Placement Officers Meet .

Further, other core companies also recruited big include -- Mercedes Benz R&D India 19, Toshiba 10, Continental 18, KPIT 52, Juniper Networks 7, BEL 8.

Among Software Services companies, Accenture recruited 267 and Infosys 150, which are considered good number in current scenario.

New companies visited include-- Tata Hitachi, SLK Software, Ducom, DiFACTO A&R

Total number of offers is 800+.

Highest salary package offered is 14 LPA

Average Package offered is around 4.5 LPA

Faculty Development Programmes

Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year 2017-18

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee	Amount of support (in INR)
2017-18	Mantesh C Choukimath	Workshop on "VLCI" held at Belgaum during 18-19 Dec 2017.	Workshop	1787.00
2017-18	J Satish	Workshop on Advanced Forging Simulation"at Bangalore during 30-31 Jan 2018. .	Workshop	5580.00
2017-18	Uma M ECE dpt + 4 flty	Nat workshop on "IOT Next" organized by ISA at B'lore during 8-9 Nov 2017.	Workshop	13647.00
2017-18	3 faculty Narayan Swamy, M.B. Page P & G.B Marali	Nat Workshop on Statistical Data Analysis Through SPSS"held at Kolhapur during 22-23 Jan 18.	Workshop	4500.00
2017-18	Mantesh Choukimath+ 3 fl	Workshop on " VLCI" at Belgaum duing 9, 12 & 13 Sept 2017.	Workshop	5212.00
2017-18	P D Kalwad	Workshop on "Global Initiative Of Academic Networks" at NITK Suratkal during 23-27 Oct 17.	Workshop	8380.00
2017-18	Nagaratna Eligar	Workshop on "Global Initiative Of Academic Networks" at NITK Suratkal during 23-27 Oct 17. VPA # C111708343004.	Workshop	8380.00
2017-18	P G Tewari & Vilas Purohit	Workshop on "NPIU" held at Ranchi during 2-3 Aug 17. N	Workshop	69005.00
2017-18	Uma M + 4 flty	Nat workshop on "IOTNext" to be held at B'lore during 8-9 Nov 17.	Workshop	15000.00
2017-18	Jyoti Ravikumar	Int Conf on " Advanced Computer Science and Information Technology" (ICACSIT) at South Asian Research Centre B'lore held on 11 Feb 2018.	Conference	15165.00
2017-18	Prashant M Narayankar	11th Int Conf on "Advanced Computing & Communication Technologies" at Panipat, Haryana held during 17-18 Feb 2018.	Conference	11464.00
2017-18	Madhusudhan H K	Int Conf on "Advances in Manufacturing Materials & Energy Engineering" at Moodabidri Kar, held during 2-3 Mar 2018.	Conference	7110.00
2017-18	Karibasappa B	Nat Cnf on "Application of Geo-Spatial Technologies and ICTs in Smart Agriculture (SMARTAGRI 2018) held at Dharwad during 23-24 Jan 18 title SMARTGIRI 2018.	Conference	5000.00
2017-18	G B Marli	National conference on "Analysis and Its Applications" (NCAA 2018) to be held on 9-10 March 2018 at Karanataka University, Dharwad	Conference	15000.00
2017-18	Yogeshwar Umthar	Workshop on "Pure and Applied Mathematics" held during 11-13 Jan 2018 at Ambejogai, MH	Conference	3094.00

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee	Amount of support (in INR)
2017-18	Sujata C	5th INT CNF on "Transformation In Engineering Education" (ICTIEE 2018) held during 8-9 Jan 2018 at Madhurai, TN	Conference	10870.00
2017-18	Suhas Shirol	2nd Int Conf on "Electronics, Communication and Aerospace Technology" (ICECA 2018) at RVS Technical campus Coimbatore during 29-31 March 18	Conference	6000.00
2017-18	Sanjeevkumar Khandal	Int Conf on"Advances in Manufacturing Material & Energy Engineering" to be held on 2-3 March 2018 at MITE, Moodabidri	Conference	5000.00
2017-18	Rakesh P Tapaskar	invention Solar Hybrid8.	Conference	2654.00
2017-18	P C Nissimgoudar	Int Conf on "Recent Advances & Applications in Computer Engineering " (RAACE 2017) at Jaipur Rajastan.	Conference	8000.00
2017-18	Vivek Komalapur	Workshop on Advanced Forming Process" at Bangalore held during 30-31 Jan 2018	Conference	5216.00
2017-18	Javeed Kittur + 1	International Conference on "Transformation in Engineering Education" (ICTIEE 2018) held at Noida during 04-06 Jan 2018.	Conference	26890.00
2017-18	Vinod Kumar V Meti	5th Int Conference on "Transformation In Engineering Education" (ICTIEE 2018) held at Madhurai during 7-9 Jan 2018.	Conference	16088.00
2017-18	Jyoti Ravikumar	6th World Conference on "Appiled Science,Engineering & Technology" held at Goa during 2-3 Jan 2018.	Conference	7000.00
2017-18	Nirmala S Patil	5th Int Conf on "Transformation In Engineering Education "(ICTIEE 2018) at Madhurai during 8-9 Jan 2018.	Conference	7775.00
2017-18	Namratha Hiremath	5th Int Conf on "Transformation In Engineering Education "(ICTIEE 2018) at Madhurai during 8-9 Jan 2018.	Conference	7775.00
2017-18	Shantala Giraddi	5th Int Conf on "Transformation In Engineering Education "(ICTIEE 2018) at Madhurai during 8-9 Jan 2018.	Conference	7775.00
2017-18	Gireesha H M	Int Conf on "Transformation In Engineering Education "(ICTIEE 2018) at Greater Noida during 4-6 Jan 2018.	Conference	11580.00
2017-18	Venkatesh Mane	Int Conf on "Transformation In Engineering Education "(ICTIEE 2018) at Greater Noida during 4-6 Jan 2018.	Conference	11580.00
2017-18	Vijayalaxmi M	5th Int Conf on "Transformation In Engineering Education "(ICTIEE 2018) at Madhurai during 8-9 Jan 2018.	Conference	7775.00

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee	Amount of support (in INR)
2017-18	Sanjeev Kavale	5th Int Conf on "Transformation In Engineering Education " (ICTIEE) held at Madhurai during 7-9 Jan 2018. .	Conference	7764.00
2017-18	J Satish	Int Conf on "AMMEE 2018" to be held in MITE, Moodabidri during 02-03 March 2018	Conference	5000.00
2017-18	Madhusudhan H K	Int Conf on "AMMEE 2018" to be held in MITE, Moodabidri during 02-03 March 2018	Conference	5000.00
2017-18	Praveen M D	Int Conf on "Cognitive Computing and Information Processing" (CCIP 2017)held in Bangalore during 15-16 Dec 2018.	Conference	3171.00
2017-18	Sandeep K	International Conference on "Transformation in Engineering Education - 2018"(ICTIEE 2018) held on 8-9 Jan 2018 at Madhurai,	Conference	7435.00
2017-18	Prashant Narayankar	International Conference on "Transformation in Engineering Education - 2018" (ICTIEE 2018) held at Maduri during 7-9 Jan 2018.	Conference	9229.00
2017-18	Vinay Talgeri, Jyoti G & Ma	Workshop on "IIEECP Phase I Workshop" during 7-11 Feb 2018	Conference	14700.00
2017-18	Prashant M Narayankar	International Conference on "ICACCT 2018" at Panipat scheduled on 17-18 Feb 2018	Conference	8000.00
2017-18	Sharanabasava V G	Int Conf on "Advances in Disease Management for Human welfare" held during 21-23 Nov 17 at Gulbarga University, Kalaburagi	Conference	4620.00
2017-18	Priyadarshini Patil	Int Conf 0n "Computational Intelligence and Computing Research " (ICCIC 2017) during 14-16 Dec 17 held at Coimbatore TN.	Conference	7500.00
2017-18	Shivanand P P + Prasanna	Int Conf on "Future Work Organizations Perspectives, Issues and Challenges" (ICFWO 2017) held at 28-30 Dec 17 at Goa.	Conference	12590.00
2017-18	Shashidhar S N	Workshop on "Standard Cell Design " held at B'lore during 11-13 Sept 17. .	Conference	3265.00
2017-18	J Satish	Int Cnf on "Cleaner Production" held at Hyderabad GRIET during 16-18 March 18.	Conference	8000.00
2017-18	S V Desai	Nat Conf on "Science & Technology 2017" held at Mysuru during 24-25 Nov 2017.	Conference	2667.00
2017-18	Vinayak Kulkarni	8th Int Cnf on "Materials Processing and Characterization" (ICMPC) held at Hyderabad during 16-18 Mar 18	Conference	16000.00

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee	Amount of support (in INR)
2017-18	Banapurmath+ A M Hunas	Int Conf on "Bengaluru India Nano Horizons 2017" held at B'lore during 7-8 Dec 17.	Conference	22300.00
2017-18	Madhusudhan H K	Int Conf on "Materials Processing and Characterization" (ICMPC 2018) to be held at Hyderabad during 16-18 Mar 18.	Conference	8000.00
2017-18	Rajeshwari M	Int Conf on "IEEE-ICCTCT 2018" to be held at SVS College Coimbatore during 1-3 Mar 2018.	Conference	5000.00
2017-18	Anand S Meti	Int Conf on "CCIP 2017" at B'lore to be held on 15-16 Dec 17.	Conference	6000.00
2017-18	A B Raju + 2 flty & 2 REU st	Conf on "Scipy-India 2017" held at IIT Mumbai during 29-30 Nov 17.	Conference	22200.00
2017-18	Priyatam kumar	conference "IESF-2017" held at pune during 5 Dec 2017.	Conference	22394.00
2017-18	Mahesh Patil	Int Cnf on " Computational Intelligence and Computing Research" to be held at Coimbatore during 14-16 Dec 17.	Conference	13000.00
2017-18	Vishal Pattanshetty	3rd International Conference on Information and Communication Technology for Competitive Startegies"at Udaipur Rajasthan to be held on 16-17 Dec 17.	Conference	12637.00
2017-18	Suhas Shirol	3rd International Conference on Information and Communication Technology for Competitive Startegies"at Udaipur Rajasthan to be held on 16-17 Dec 17.	Conference	12637.00
2017-18	Praveen Dhulavghol	3rd Int Cnf on "Cognitive Computing And Information Processing" (CCIP 2017) at B'lore to be held on 15-16 Dec 17.	Conference	6000.00
2017-18	INDIRA G BIDARI	Int Conf on Advancements In Power & Energy"at Kerala to be held at 21-23 Dec 17.	Conference	9440.00
2017-18	Jyoti Bali	Int Conf on " Sleep Medicine & Research"held at Goa during 22-23 Sept 17.	Conference	12269.00
2017-18	Anand L	Int Conf on " Advances in Materials and Manufacturing Applications " held at B'lore during 17-19 Aug 17.	Conference	17220.00
2017-18	Javeed Kittur	5th Int Conf on "Moocs, Innvation and Technology in Education "(MITE) held at B'lore during 27-28 Oct 17.	Conference	15480.00
2017-18	Shivanand P & PRasanna R	Int Conf on "Future Work Organizations Perspectives, Issues and Challenges" to be held at Goa during 28-30 Dec 17.	Conference	7080.00

Research and Innovation

To meet its growth aspirations, one of the challenges faced by the Univeristy is to transform itself from a good teaching institute to an excellent teaching and research institute. It is important that we need to further the research and developmental activities for the following:

- To sustain academic and professional reputation in knowledge-based economy
- To attract and retain high quality faculty and students
- To maintain cutting-edge curriculum and create stimulating learning environment
- To improve undergraduate teaching, because a researcher; (i) is a better thinker and problem solver, (ii) can promote active teaching & (iii) can create enthusiasm
- To align academic activities with economic development of the region.

Research centers

KLE TECH has 12 research centers with 79 doctoral faculty guiding 87 registered doctoral students at KLE Tech and 70 faculty registered in other universities. The following table presents details about the research centers.

Table 1: Details of registered and awarded candidates at 12 research centers

Sl. No.	Name of School/Department/ Center	No. of Name of Eligible Supervisors	No. of PhD's registered at KLE Tech	No. of PhD's registered at other universities
1	Civil and Environmental Engineering	9	7	0
2	Computer Science & Engineering	12	24	16
3	Electronics & Communication Engg	9	2	18
4	Mechanical Engineering	20	18	12
5	Biotechnology	5	8	01
6	Electrical & Electronics Engg.	2	5	01
7	Management Studies and Research	3	2	05
8	Humanities and Social Sciences	1	3	0
9	Engineering Education and Research	3	2	0
10	Chemistry	4	6	1
11	Mathematics	9	4	7
12	Physics	2	6	9
	Total	**79**	**87**	**70**

Summary of publications

The following table summarizes the number of publications of research work in refereed conferences and journals at national and international level.

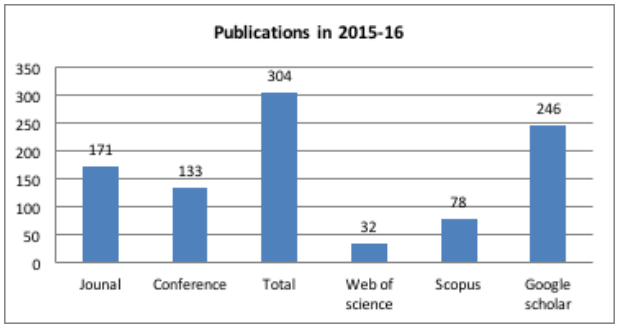
Table 2: Summary of papers published during 2015-16, 2016-17, 2017-18

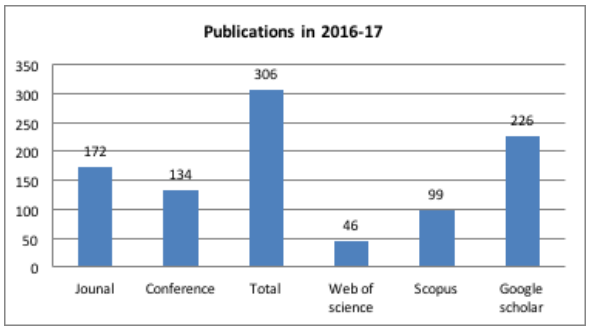
Indexed in: W- Web-of- science S- Scopus G- Google scholar

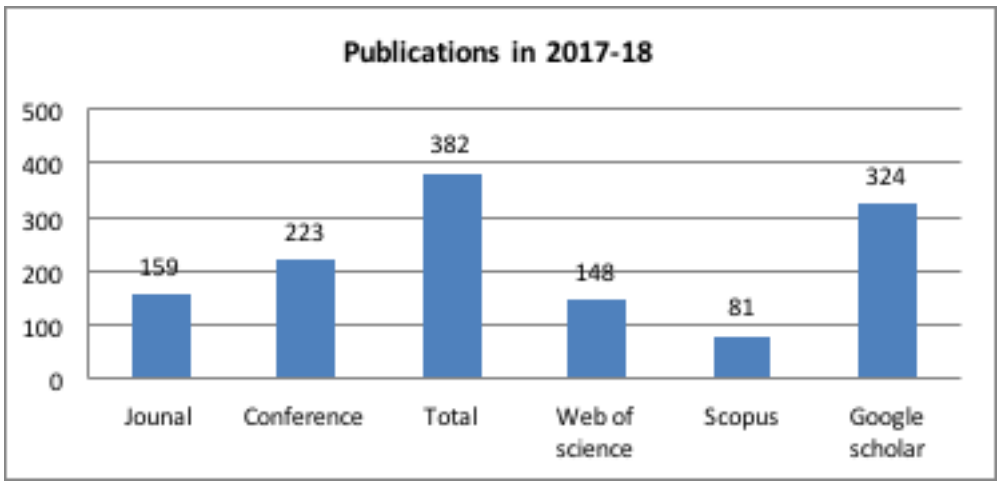
Details	2015-2016				2016-17				2017-18			
	Journal		Conference		Journal		Conference		Journal		Conference	
	IJ	NJ	IC	NC	IJ	NJ	IC	NC	IJ	NJ	IC	NC
# of Publications	154	17	123	10	154	18	126	8	151	8	222	11
	171		133		172		134		159		233	
W	32				46				148			
S	78				99				81			
G	246				226				324			

Indexed in W—Web of science, S-Scopus, G-Google scholar

Graphs







Summary of Patents

Summary of patents 2014 to 2017

Total Number of Patents filed : 13

Total number of patents approved : 09

Total number of provisional patents : 04

Summary of patents in 2018

Total Number of Patents filed : 01

Summary of External funded projects

Research grants received: 2013-2018

Sl. No.	Year	Number of projects	Amount sanctioned	Funding Agency
1	2012-2013	02	34.56	VGST, DST
2	2013-2014	08	58.6	AICTE,NRB,VTU
3	2014-2015	01	4.0	VGST
4	2015-2016	03	32.55	DST, USAD
5	2016-2017	07	278.51	UASD, DST, DRDO, Continental, BBC (K-BITS),BTFS
6	2017-2018	04	60.5	GoK-USAD,SRIB,VGST
	TOTAL	**24**	**468.72**	

Summary of External Funding

External funded projects

Summary of External Funding

Consolidated list of projects from 2013 to 2017				
	2013 to 2017		2017-18	
Name of School/Dept.	# of projects	Amount in Lakhs	# of projects	Amount in Lakhs
Civil	01	20.00	0	0
CSE	02	32.50	0	0
ECE	10	81.66	02	15.26
MECH	07	112.80	02	4.00
BT	01	162.50	02	40.00
Total	**21**	**409.46**	**04**	**59.26**

Research Experience for Undergraduates (REU)

Undergraduate research opportunities help the student to experience and learn how to identify and define the problems and solve them, how to find and evaluate evidence, how to consider and assess competing interpretations, how to form and test their own analysis and interpretations and how to communicate their ideas and findings. These learnings enable them to take part in the research missions in their future career inside or outside academia.

Probably our college is the first institution in India to introduce 'Research Experience for Undergraduate (REU)s' in the curriculum as an optional course. The response from the students and faculty mentors has been overwhelmingly positive. The students and faculty mentors have devoted considerable time and effort to make the experience worthwhile and fruitful.

Summary of outcome of the REU course is reflected in the following table. In the first year, 19 REU students have published 25 papers in international conferences and journals, and 8 of them have either completed or doing post graduation. About 25% of the total REU students from 2011-14 are doing post graduation either in India or abroad

Year	# REU students	# REU Supervisors	# of Publications from REU	# REU students pursuing PG
2011-12 (completed)	18	22	25	8
2012-13 (completed)	31	40	20	8
2013-14 (Completed)	30	44	23	5
2014-15 (Completed)	46	48	26	4
2015-16 (Completed)	67	54	31	6
2016-17 (Completed)	68	60	20	4
2017-18 (Completed)	73	68	68	2

Research Promotion Schemes

University -Research promotion Schemes

To promote research in emerging and high impact areas, the institute has undertaken initiative to identify and nurture research clusters/research groups (RC/RGs) and fund for Product Design and Development Grant (PDDG) and faculty student start-up grant (FSSG) initiatives.

- **Research Cluster (RC):** Research Cluster is theme centered, e.g. energy, material science, ESDM etc. These centers synergize the efforts and expertise of faculty across the departments and create a platform towards building higher levels of inter-disciplinary research/development/technology-translation/ productivity. The aim is to get recognition and visibility in a chosen theme
- **Research Group (RG):** This is similar to RC, however collaborating faculty can be from the same department or across departments. Research group leads to initiation of research clusters in the collaborating area over a period of time
- **Product Design and Development Grant (PDDG):** This grant is given to a faculty or group of faculty who involve in product innovation, design and development activity of the institute and supports start-ups and industry. These faculty groups bring together the skill set and expertise of multidisciplinary group of researchers from schools, departments, RCs/RGs and industry towards technology translation, design and development activity of a product.
- **Faculty Student Startup Grant (FSSG):** This grant is given to a faculty or group of faculties who involve with the startup and students towards a product development and deployment.
- **Institute Research Projects (IRP):** IRP internships are allowed in the following cases:
  - IRP-1: Institutional research projects approved by the university R&D center.
  - IRP-2: The research projects which have received external funding.
- **Two new RGs are identified in 2018-19**
  - High Performance Computing (HPC)
  - Smart system for early detection of plant diseases
- **Two Faculty Student Startup Groups (FSSG) are identified in 2018-19**
  - Semantics & mathematical modelling
  - Product design and development for agriculture

- **Identified Institute Research Projects (IRP) 2018-19**
  - IRP-1 groups
    - A. Autonomous Electrical Vehicle
    - B. Water management
    - C. India Chip
    - D. Security and Surveillance.
    - E. Humanoid
  - IRP-2 groups
    - A. India Digital Heritage
- **From 2017-18, 5% of Revenue Income of University is allotted for promoting Research and Development and table provides details of utilized and planned funding for the year 2017-18 and 2018-19.**

Budget Utilized in 2017-18

SL No.	Head planned	2017-18		
		Budgeted amount in L	Sanctioned amount in L	Utilized amount in L
1	Research clusters and groups	150.00L	152.64	128.73
2	Capacity building	50.00L	27.92	22.85
3	Others	50.00L	50.00L	10.49
	Conferences to conduct: 10.00			
	Conference to attend. : 15.00			5.30
	Training (FDPs) : 10.00			0.44
	Patenting : 10.00			0.45
	Incentives : 5.00			4.30
	Total	**250.00L**		**162.07**

Institute funded projects under RC/RG/PDDG

Sl.No	Name	Title of the research group/ cluster/PDDG faculty group	Sanctioned 2017-18	Utilised 2017-18
1	Dr. Nalini C Iyer	RG: Center for Automotive research	**10.00**	**12.00**
2	Dr. Uday Muddapur	RG: Bioresource Development	**06.00**	**3.50**
3	Dr. Ravi Guttal	PDDG faculty group: Platform for Product Innovation, Design and Development	**32.00**	**16.78**
4	Dr. Meena S M	RG: Intelligent Systems (IntS)	**20.00**	**11.8**
5	Dr. Saroja V. S	RC: ESDM	**32.00**	**24.35**
6	Dr. N.R.Banapurmath	RC: Material Science Cluster	**40.00**	**47.32**
7	Dr. S S Quadri	RG: Advanced Pavement Research Lab	**12.64**	**12.98**
New RC/RG/PDDG Projects 2018-19				
8	Dr. Satyadhyan C	High Performance Computing,		**120.00**
9	Mr. Prakash B Hegade	Semantics & mathematical modelling		**0.50**
10	Dr. P R Patil	Smart system for early detection of plant diseases.		**2.35**
11	Mr. Aditya Deshpande	Product design and development for agriculture		**2.10**
		Total	**152.64**	**128.73**

Institute funded capacity building projects for Individual faculty

Year	Total projects	Total amount in Lakhs
2011-12	17	9.9
2012-13	14	12.44
2013-14	14	11.6
2014-15	22	14.07
2015-16	15	13.25
2017-18	25	27.92

Incentives given to faculty for good publications, funded research and guiding doctoral students

SL No	Year	Total projects	Total amount
1	2015-16	3	19,000/-
2	2016-17	10	2,33,320/-
3	2017-18	31	4,30,000/-
Total			**6,82,320/-**

Collaboration with Industry for Research: Collaboration with SAMSUNG Research India Bangalore (SRI-B)

- SRI-B senior team Dr. Balaji Holur, Senior VP and Dr. Lokesh Boregowda, Director are member of our Academic council.
- Large scale changes in the courses: (i) Introduction of new core course 'Machine Learning' for CSE and ECE students
- Workshops for 1-2 days on advanced topics
- Research projects for students and faculty
- Project collaboration through NDA and university MOU in common areas of interest
- One collaborative project on 3D reconstruction is completed
- 12 Faculty are trained for a week on embedded intelligence computing
- 2 Faculty registered for PhD are selected by Samsung for 9 months internship to carryout their research work
- 8 hours CODETHON in collaboration with COSDCHEFF and SAMSUNG on 29th Sept 2018: Unique initiative by Samsung, first of its kind being held in north Karnatka and targeting north Karnataka talent.
- 14 research problems are taken up by 11 faculty and 40 students in the area of embedded intelligence computing
- Uma Mudenagudi is invited to present outcomes of collaborative project at India Research Network (IRN) 2018 meeting being held at Samsung R&D Institute India-Bangalore (SRI-B) on 6,7 Sept. 2018

Entrepreneurship

Centre for Technology Innovation and Entrepreneurship (CTIE):

Entrepreneurship is the key driver for development and job creation in any nation. Higher the entrepreneurship orientation of people, more can be innovative solutions, improved quality of life and better economic development of its citizens. Centre for Technology Innovation and Entrepreneurship -CTIE at KLE Tech aims to build this culture of startups at the University. Using a seven step framework to build technology ventures, KLE Tech-CTIE boasts having 38 companies at its University campus and is growing.

| Develop entrepreneurial thinking and liking in the mind of students

| Excite students to take on socially relevant challenges and help build solutions

| Develop ability to build business around tech. solutions

| Engage entrepreneurially aligned people to come together to be a part of the business ecosystem

CTIE Strategy:

To help build a technology entrepreneurship ecosystem, CTIE followed a two pronged approach. The first is to encourage external entrepreneurs with a good business plan and cultural fit to start their business on University campus. This enabled quick ramping up of companies with commercial interest that served as a beacon to engage students in a variety of collaborative activities. Alumni of BVB responded to this call effectively and many businesses made CTIE as their home. Simple and no strings- attached policies of CTIE helped to attract serial entrepreneurs and young engineers to build their ventures.The second path focused on building the pipeline of eligible students who are open enough to experience career of an entrepreneur. A good mix of credit based and non-credit activities were undertaken as a part of this approach.

The entrepreneurship interventions designed at KLE Tech focused mainly on, Building entrepreneurship culture on campus Opportunity identification and technology solutions Commercialization strategies As a result of such blended approach to entrepreneurship, CTIE has following to claim.

- 33 technology companies on campus
- 12% of these are student/fresh graduate start-ups
- Over 25,000 sq. ft of incubation space given away
- Over 9000 Sqft Techpark / Accelerated
- Over 200 plus jobs created

Launch of Next Big Idea Contest by Zone Startups

KLE – CTIE was one of the regional partners for the Launch event of Next Big Idea Contest by Zone Startups on 23rd August 2017. KEL – CTIE was hosted this launch event at KLE Tech. University and had a panel session on "Think Beyond Silicon Valley" Mr. Niranjan Demanna, Team Zone Startups, Mr. Sasi Shekar Krish, Founder & CEO, NanoPix Technologies Pvt. Ltd., Mr. Prasad Patil, Founder & CEO, Aissel Technologies and Prof. Nitin Kulkarni were the panelists and shared their views on entrepreneurship. Total 45 participants attended the session.

PUPA-2017

PUPA is an accelerated entrepreneurial experience for students. PUPA 2017 saw the biggest number of registrations and exhibiting participants since its inception in 2013, Over 400 teams and 1500 participants had taken part in PUPA-2017. PUPA, as the name suggests, is a transient state where in student teams garner key resources and turn out products just like a beautiful and lively Butterfly over 4 weeks. PUPA 2017 witnessed the collection of amazing technical products. LED cube with equalizer, which had dancing led patterns synchronized with the music beats gave an eye-catching show. Remote controlled Vacuum cleaner that cleans the surface as it slides over it. A remote controlled, 'Smart switch' that automatically switches off after a pre-set time, presented a new way of power saving. Bluetooth Speakers that give a mesmerizing audio effect opened a way of innovation in entertainment. Smart display, solar chargers, cost efficient power banks, Smart Gloves and many more technical innovations led the innovation extravaganza.

Student Exchange Program 2017-2018

December 29, 2017 to January 12, 2018 at KLE Technological University Hubli, India

Faculty – Nitin Kulkarni (KLE, India), Ashwin Mehta (UML, US, Xu Xia (NUPT, China))

Over 50 students from US, India, Japan and China assembled in Hubli, India for 2 weeks of intensive entrepreneurship learning in a multi-cultural, multi-disciplinary environment! Since its inception in 2013, students from 8 countries have participated in the program, held in Hubli , USA and China.

Intel Ideation Camp

The Ideation of Ideas started with collective effort of Team MIB led by the director of CTIE, Mr. Nitin Kulkarni on 14th & 15th February 2018 at KLE Tech. From around 170 applicants, 70 of them were scrutinized and selected based on their skills in expressing themselves on the paper. A set of three different topics were given based on their need in today's world and their effect on our surroundings. They were Smart city, Indian Agriculture and Cyber Security.

Design thinking workshop

The workshop held on February 18th 2018 by Mr. Rajeev Mankar on design thinking was organized with the aim of making the participants think from multiple angles and understanding the needs & expectations of multiple stakeholders while designing a product. The workshop was conducted for employees and employers of all startups incubated in KLE-CTIE.

E-Summit 2017

KLE-CTIE hosted its annual event E-Summit 2017 on 8th, 9th & 10th March 2018 at KLE Technological University. Event was organized by KLE-CTIE and more than 500+ students from different institution and entrepreneurs attended the event. An exhibition was also arranged on the last two days for all the startups to exhibit their innovative ideas to the outside world.

We had successful entrepreneurs and experts shared their expertise and interacted with students and startups.

List of the Speakers who shared and interacted with students and startups

Mr. Venkatesh Iyer- Founder and CEO Goli Vadapav

Mr. Abhishek Chandrashekar- Co-Founder Royal Brothers

Mrs. Deepali Gotadke- Founder and Business Owner, Web Dreams

Mr. Girieendra Kasmalkar- Alacrity India Fund

Mr. Apul Nahata- Co-Founder,Kalpnik Tech,Mentor-in Residence Brigade REAP Pvt. Ltd.

Mr. Ramnath Bhat- COO, Repose Mattresses Pvt. Ltd

Mr. Dhananjay DJ- Co-Founder, Olopie

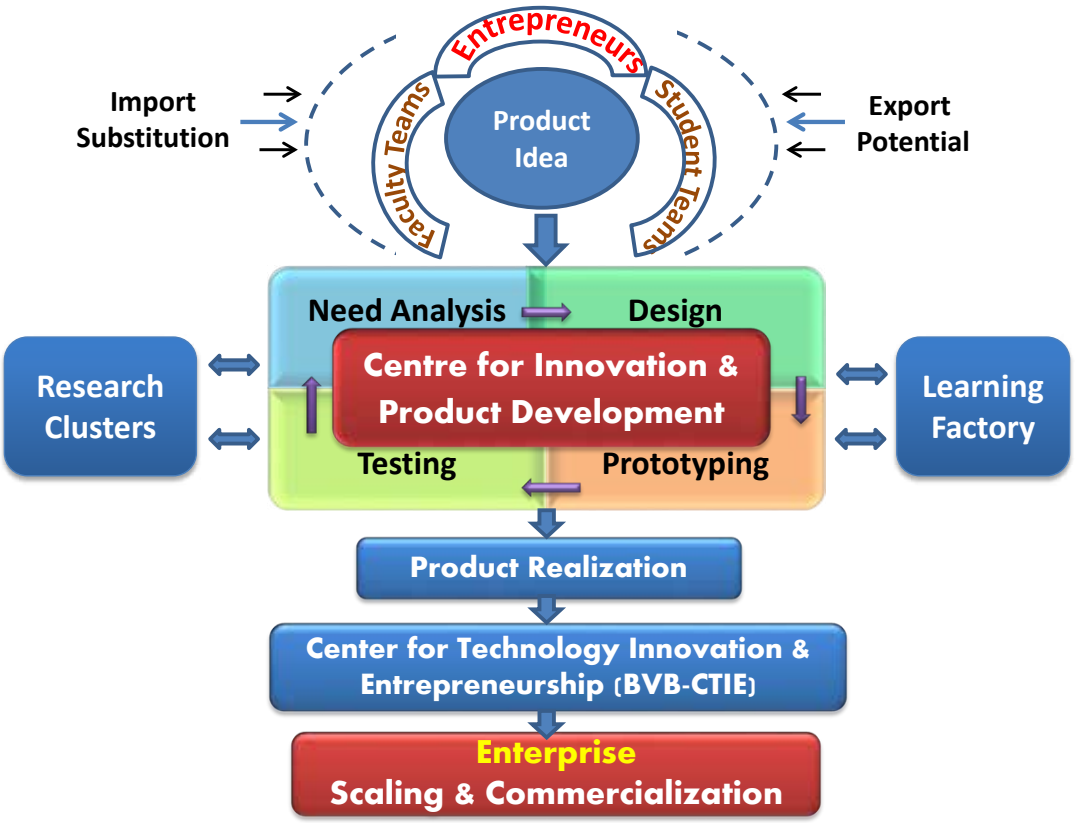
Mr. Guru Ganesan- President & Managing Director, ARM-India Operations,ARM

The event had various competitions such as CEO- where 250 students participated and 3 winners were announced at the end of 3 rounds. B-Plan Hackathon had 192 participants, 3 winners were announced after 7 rigorous stages. Battle for Sharks had 54 teams competing against each with the total prize money being worth INR 1,00,000/-

CIPD - Cenre for Innovation & Product Development

Over arching philosophy of CIPD

KLE Tech Centre for Innovation & Product Development
[KLE Tech - CIPD]



The Center has been established to develop capabilities in Product Innovation and Development for students,faculty and start-ups within KLE Technological University.

The Mission: To be a premium product innovation and development center in India by 2020 within the academic arena

One small step towards achieving our mission this year was to address a challenging social cause of sugarcane biomass burning and create a win-win situation for farmers and society as a whole.

BEACON : Biomass Energy And CONservation (BEACON) is an strategic initiative deployed by CIPD to utilise the biomass to generate energy, and improve livelihoods in rural India

This Initiative achieved the following goals :

1. REDUCE ENVIRONMENTAL IMPACT BY NOT BURNING SUGARCANE BIOMASS
2. IMPROVE RURAL EMPLOYMENT
3. EXTRA INCOME FOR FARMERS
4. SUSTAINABLE BUSINESS MODEL FOR ENTREPRENUERS AND STAKEHOLDERS

This endeavor was first of its type in terms of collaboration between educational institute (KLE Technological University), Industry (EID Parry) and NGO (Cherysh Foundation).

The business model is adopted by 4 entrepreneurs in North Karnataka and CIPD has introduced two design patented products to enable the biomass energy conversion process.

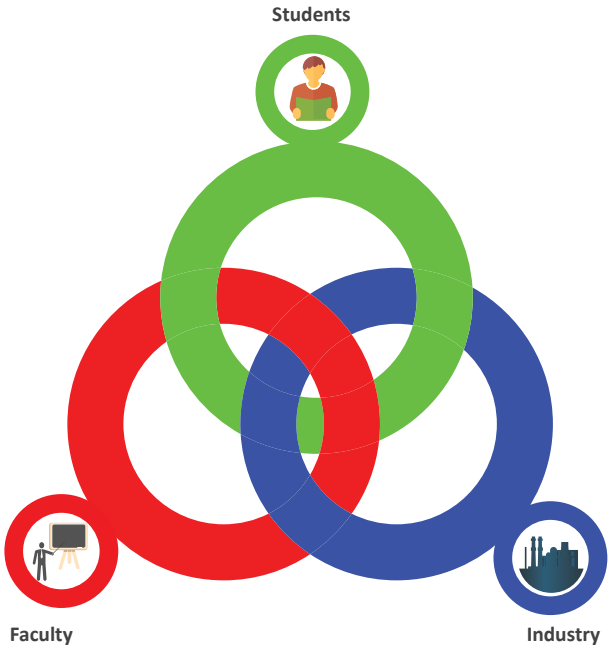
This unique project has converted a vicious cycle of sugarcane biomass burning to a virtuous cycle by providing value to the sugarcane biomass

The following strategic initiatives shall be deployed to achieve our goal:

- Collaboration: With Industry, students, faculty and society to develop innovative product ideas
- Organizational alignment: Academic courses to be aligned to achieve an end goal of product realization. All New Product Introduction, Innovation and Product Design & Development courses to be aligned towards a common goal. Faculty members from various departments to be in a team which shall work towards the 2020 goal
- Develop eco-system for product innovation and Intellectual Property Management – processes and tools
- Capability Building: Develop Product Innovation, Design and Development curriculum; Training programs and workshops for faculty and industry partners

MakerSpace

The 'MakerSpace' is a central facility created to promote product development and realization eco-system on the campus. It intends to provide students with unique learning experiences on real industry problems and products in a work-emulating environment. It helps them understand industry needs, professional requirements and the product realization process. The MakerSpace provides modern design, prototyping, and manufacturing facilities required for realization of any electro- mechanical product. It also provides expert supervision and training to use the facilities. The MakerSpace is administered by the University as a resource for all engineering departments. Facilities, with an investment of about 3.0 crores of rupees, occupying 10,000 square feet, include a machine shop (4000sq.ft), model shop (2000sq.ft) and project work area (4000sq.ft). Engineering student can use the MakerSpace for concept design & realization, course-related activity and/ or competition projects such as SAE Formula, SAE-BAJA, SAE- ecokart, SAE-Efficycle, ROBOCON, etc. The shop is open 8 am-8 pm weekdays and on weekends as needed.



MakerSpace

MakerSpace – Added with more facilities

DMG-MORI 600V
Vertical Milling Machine

It is a state-of-the-art machine extensively used by aerospace parts manufacturers. Students will gain exposure on machining aerospace parts on this same machine.

AION-500 3D Printing Machine

Another addition to existing 3D Printers' family with a capability to print bigger parts i.e. 500mmx500mmx500mm

12 Station Assembly Arena with Power Tools

Student teams can assemble a product/prototype without having to roam around for tools.

Industry Partnership

It is essential that the institute continues to strengthen its association with the industries to enhance its student learning experience and relevance of its research activities.

Curriculum intervention:

Board of studies of every program is having at least two senior members from Industries like Microsoft, GE, Tata motors, TCS, Samsung, Sankalp etc.

Industry Oriented Courses:

Fundamentals of Gas Turbines: Has been offered for the Mechanical stream departments in collaboration with Quest Global (now Aequs).

Active Directory Services: Has been offered in Collaboration with Microsoft IGTSC for the students of CSE, ISE and EC branches.

Parallel Computing and Applied Parallel Computing: Has been offered In Collaboration with NVIDIA for UG and PG courses of CSE and ISE.

Fundamentals of IT: Has been offered by the Mechanical stream departments in collaboration with Infosys.

Automotive electronics: Has been offered in Collaboration with Robert Bosch and KPIT. This has led to increase in placements by 150 % for the companies in the field of automotive electronics in Bosch, KPIT, Continental and Delphi.

Aircraft Systems and Design of Aircraft Structures: Has been offered by the Mechanical stream departments in collaboration with Infosys.

Manufacturing technology: Has been offered for the Mechanical stream departments in collaboration with Quest Global (now Aequs).

Industry based projects:

Around 80 capstone projects have been carried out in collaboration with Industries like Microsoft, Juniper Networks, Sankalp, Ion Idea, Nano pix, Hi-WI etc.

Smart India Hackathon 2018:

Smart India Hackathon was organized in association with MHRD, Ministry of Statistics and Programme Implementation and other Industries.

2nd INS-Zoom Hackathon :

2nd edition of the INS-Zoom hackathon was conducted in association with INS-Zoom.

Internships:

114 students were offered full time Internship by various Industries:

Cisco	6
GDV Pvt Ltd	3
Informatica	3
Infosys	15
INSZoom	2
Juniper CSG	3
Juniper Test Div	2
Kooki	2
Microsoft	9
Quest Global	3
Robert Bosch	24
Sankalp Semi	5
United Heat Transfer	4
Walmart Labs	10
Various Biotech Companies	23

Education Research

Centre for Engineering Education Research (CEER)

About CEER:

KLE Tech is playing the important role of creating engineering education system offering opportunities for students to realise their potential and prepare themselves for professional career. This includes design of industry relevant curriculum, practicing of active, collaborative and experiential learning pedagogies and assessment and evaluation. Today KLE Tech is recognised for innovations in this space. Need to learn from these innovations and sustain them resulted in establishing Centre for Engineering Education Research (CEER). CEER was established in 2010 to promote innovations in engineering education, learn from these innovations, collect best practices and institutionalise them. CEER works with the following goals:

1. Empower faculty members with the best practices in curriculum design, teaching – learning and assessment through trainings, workshops and allied activities
2. Encourage innovation in curriculum design, teaching – learning and assessment
3. Influence faculty mindsets to recognise the importance of research driven instructional practices
4. Share the experiences with community through outreach activities like publications, workshops, trainings and conferences
5. Design and offer innovative courses and programs

The processes and practices towards accomplishing these goals have made significant contributions to enriching the engineering education ecosystems of the University. The number of engineering education research publications is growing steadily since the last five years. CEER has earned a respectable position among the practitioners of engineering education. Good number of Engineering Colleges in India have taken inspiration and have setup such centres in their respective Institutions taking best practices and courses from.

Innovations in Engineering Education

Engineering Exploration course and Prayog

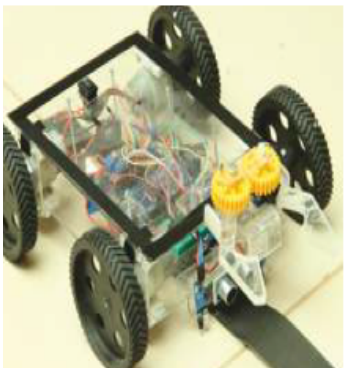
The first year course – “Engineering Exploration” is a unique innovation born in the educational ecosystem of KLE Tech. This is a co-designed and co-taught course that focuses on problem solving, engineering design, multi-disciplinary skills, ethics and sustainability. Initiated in the year 2015-2016, the course has matured to a Project Based Learning course. Students collaboratively solve identified problems to design mechatronic prototypes. The learning spaces are designed to promote teamwork and collaboration. Students ideate, design and build prototypes in a safe and friendly prototyping facility - “Tinkering Lab” which is equipped with necessary modern tools and equipments.

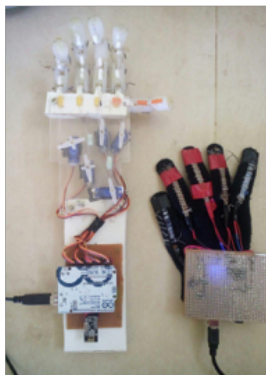
The course culminates with the celebration of students’ success in the form of an exhibition - Prayog. Prayog is an event to showcase the projects done by students in Engineering Exploration course. It is conducted twice a year (Prayog Sharat - Odd Semester, Prayog Vasant - Even Semester) on the last working Saturday of both semesters. It serves as a platform for peer learning. The details of Prayog for the academic year 2017-2018 are shown in Table 1. During 2018, Senior Vice President Samsung Research Institute Dr.Balaji Holur, Samsung CTO Dr. Aloknath also visited the exhibition.

Table 1. Details of Prayog-Vasant and Sharat

	Number of projects	**Date**
Prayog Vasant	147 projects by 550 freshmen	April 27 2018
Sharat	**127 projects by 480 freshmen**	**Dec 3, 2017**

Over the past one two years, this course has evolved as a test bed for innovations in engineering education. Besides, it is offering good learning platform for faculty members wanting to get exposure to innovative experiments in pedagogy and assessment practices. The course is listed as one of the PBL practices in Alborg University’s UNESCO chair for PBL.



PhD in Engineering Education

KLE Tech is one of the few Institutions in India offering PhD in Engineering Education. This program is started in 2015-2016 and has been designed with a vision of contributing to leadership development in Engineering Education. Experiences of a few of the leading universities in the world are used in designing the program.

The advisory board for CEER consists of leaders in engineering education from prestigious universities.

Prof. Vinod Lohani
Virginia Tech.

Prof. William Oakes
Purdue University

Dr. Sohum Sohoni
Arizona State University

Dr. Yogesh Velankar
KLE Tech

Prof. Ashok Shettar
Vice Chancellor

Prof. Prakash Tewari
Dean (Academic)

Prof. Gopalkrishna Joshi
Director, CEER

Research in Engineering Education

Current Focus Areas

Engineering Education Research is the most rigorous form of scholarship that lies along the following spectrum:

For CEER, the progression along the continuum has been steady in the last five years. There has been a meditated and conscious movement from innovative curriculum design to understanding "How students learn engineering?". In this endeavour, Engineering Exploration has served as a test bed for many educational experiments.

There were efforts to address the following research questions during the year 2017-2018:-

1. What is the current state of secondary and higher secondary education in India with respect to introducing engineering thinking and what could be the possible ways of introducing engineering thinking at secondary and higher secondary education?
2. How does process and pedagogy influence the outcomes of the problem definition phase of the Engineering Design process?
3. How 'Jugaad' mind-set gets manifested in students' project prototype, what are its root causes and how can we design interventions to overcome this mindset?

The details from KLE Tech, in engineering education research during 2017-2018 are as shown below:-

Year	Conference	Journal	Total
2018	ICTIEE-19	JEET- 05	24

REU Experiences

Research Experience for Undergraduates (REU) is an integration of research and education at KLE Tech. During the summer of their third year, the students undergo six credits research experience with a scholarly faculty which culminates in a research publication. This leads to a broad range of cognitive and personal abilities in undergraduates which has shown to motivate them for graduate studies. At CEER, faculty-student partnership in SOTL was achieved a through structured initiation of students into the research process through collaborative mentoring and cohort learning. The research topics for the academic years 2017-2018 are shown in table below

Sl.No	Research Topic
1	Social media data analytics for personality modelling
2	A study of team formation strategies and their impact on individual student learning using EDM
3	A Study of Impact of Experiential Learning on Student Success using EDM.

Collaboration

IESA-NETRA

India Electronics and Semiconductors association is promoting Electronics System Design and Manufacturing and entrepreneurship in India through select educational institutes and universities in India. This is being pursued through NETRA (National ESDM Training and Research Academy) which has been created for this aforementioned purpose.

As a part of this program, MoU has been signed between IESA-NETRA and CEER, KLE Tech to take Engineering Exploration to develop ESDM skills in select universities / engineering colleges in India. This collaboration covers:-

1. Sharing of curriculum content with select institutes
2. Empowering faculty members through workshops
3. Mentoring to create a required learning environment in these institutes
4. Periodic review and impact assessment

This collaboration signed during September 2017 is for a three-year period. Two Master Trainers Workshop on Engineering Exploration were conducted during 2017-2018 the details of which are shown in table below. As of date, a number of institutes in India have started Engineering Exploration course.

FDP	Institutes	Number of participants	Date
First	8	22	Nov 29-Dec 1, 2017
Second	13	64	May 14-18, 2018

Master Trainers Workshop 1

Glimpses of faculty in action during workshop 1 and workshop 2

IESA-NETRA

Collaboration with IUCEE

KLE Tech is a major beneficiary of the initiatives of Indo Universal Collaboration for Engineering Education (IUCEE) in its transformational journey since inception of IUCEE. Through a number of initiatives KLE Tech shares it's experiences with professional community in collaboration with IUCEE.

Two-day institutional Exposure program

The two day institutional exposure program brings to forefront the best practices in curricular innovations, teaching-learning processes, research activities and infrastructural facilities at KLE Tech. The visiting administrative heads and faculty members visit the institutional facilities like Makers Space, Learning Factory, Centre for Engineering Education Research (CEER), Centre for Technology Innovation & Entrepreneurship (CTIE), Incubation Centre and individual departments. During the academic year 2017-2018, 326 members from 34 institutes from different parts of India have participated in this program.

IUCEE KLE Tech., Webinar course on OBE

KLE Tech has started offering an online certificate course on Outcome Based Education in collaboration with Indo Universal Collaboration for Engineering Education. Dr.Ashok Shettar, Dr.Prakash Tewari and Dr.Gopalkrishna Joshi are the resource persons for this course. This year's webinar is the second in the series which was started in 2016. A series of 12 webinars were conducted between September and December, 2017.

Outreach activities

To disseminate the scholarly practices to audiences, CEER engages with institutes through a range of faculty development programs which vary in the depth and scope.

Immersive Training on Pedagogy, Assessment and Institutionalisation of best practices

The five-days training on Pedagogy, Assessment and Institutionalization of Best practices is conducted for 10-15 multi-disciplinary faculty members from a single selected institute. The training focuses on the following:-

1. To create awareness about with best practices in curriculum design, pedagogy and assessment

2. To help develop an institutional and departmental plan of action for deploying innovative pedagogies, assessment strategies at parent institute

Initiated during February, 2017, six trainings have been conducted so far, reaching 62 participants from 3 institutes. The details for the training conducted during academic year 2017-2018 are as shown in table below.

Institute Name	Participants	Dates
SR Engineering College, Warangal	10	Oct 9-13, 2017
St. Joseph Engineering College, Mangalore	15	Jan 29-Feb2, 2018

Joseph Engineering College, Mangalore

SR Engineering College, Warangal

Faculty Development Program on Student Centred Teaching and Learning

Research has shown that engagement with content and peer interaction is shown to be one of primary contributors to students' academic achievement. This engagement can be increased by adopting student centred teaching-learning practices.

The 2-days faculty development program on student centred teaching learning takes the faculty through the content, assessment and pedagogy of Engineering Exploration course by focusing on the student centred teaching-learning practices practiced in it.

The details for the training conducted during academic year 2017-2018 are as shown in table below.

Institute Name	Participants	Dates
KLE's MSSCoE, Belgaum	80	July 02-03, 2018
KLE IT, Hubballi	40	July 30-31, 2018

Faculty Conclave 2018

A Two-day Faculty Conclave-2018 was organized by Centre for Engineering Education Research (CEER), KLE Technological University, Hubballi on 26-27th, July, 2018. Being initiated in 2011, this event was eight in the series.

The Faculty Conclave provides a platform to showcase new pedagogical practices and research in the realm of engineering education at KLE Technological University, Hubballi. The event showcased 50 paper presentations and 09 posters by the faculty members belonging to different schools and departments of the university.

Spread over eight sessions, the five distinct themes of the event are:-

1. Curriculum Innovation
2. Outcomes Assessment
3. Experiential Learning
4. Pedagogies in Engineering Education
5. Research Experiences, Entrepreneurship and Industry – Institute Collaboration
6. Graduate Program Experiences
7. Technology Enhanced Learning & MOOC Experiences

The faculty of the institute actively participated in the deliberations during the conclave. The event served as a forum for exchange of ideas and practices followed across the various schools and Departments of the KLE Technological University.

Outcome Based Education

The understanding and experience of practicing outcome based education in KLE Tech, is being shared with the community of engineering educators in the form of induction programs, workshops, webinars and courses. The details for the training conducted during academic year 2017-2018 are as shown in table below. Dr.Prakash Tewari and Dr.Gopalkrishna Joshi are the resource persons for this workshop.

Institute Name	Participants	Dates
Babasaheb Ambedkar Marathwada University, Aurangabad	80	Nov 8-9, 2017
Vignan's Institute of Information Technology, Visakhapatnam	120	May 4-5, 2018

Distinguished Visitors to CEER

During 2017-2018, a number of leaders in engineering education visited CEER with the intention of collaborating and nurturing the research culture at CEER..

Dr. Vinod Lohani

Dr. Vinod K. Lohani is a Professor of Engineering Education and serves as the Director (Education and Global Initiatives) for the Institute for Critical Technology and Applied Sciences, Virginia Tech.

Dr. Lohani visited CEER on Dec 15, 2017 during which he assessed the progress made in implementing the Engineering Exploration course and sharing of best practices through CEER outreach activities.

Dr. Sohum Sohoni

Dr. Sohum Sohoni is an Assistant Professor in Engineering at The Polytechnic School at Arizona State University. He is a computer engineer and is active in the area of computer science and engineering education research.

Dr. Sohoni visited CEER during Dec 11-12, 2017 and again during July, 2018 to help nurture the PhD program on Engineering Education Research and set the path forward.

Prof. Krishna Vedula

Prof.Krishna Vedula, Dean-Emeritus, University of Massachusetts-Lowell, Founder and Executive Director of Indo-Universal Collaboration for Engineering Education visited during Aug 06, 2018. The purpose of his visit was to get updates on Innovations in Engineering Education at KLE Tech and strengthen the collaboration.

Prof. William Oakes

Prof. William Oakes, Professor of Engineering Education, Director of EPICS, Purdue University visited on 7th March, 2018. He reviewed the PhD program in Engineering Education.

Recognitions

KLE Tech awarded by IUCEE

KLE Tech awarded as Ranked No 1 for "Outstanding Institutional Transformation in Engineering Education" at Bennett University, New Delhi by IUCEE (India US Council for Engineering Education) for the second consecutive year.

Techno Visionary Award

Dr. Ashok shettar, VC KLE Tech University, receiving Techno Visionary Award for Outstanding performance in ESDM research and eco system by Honourable minister for IT Nara Lokesh of Andra Pradesh on 27th Feb 2018.

1) KLE Technological University has joined Purdue University consortium for LASER PULSE project. US Agency for International Development (USAID) has awarded the LASER project to this consortium which consists of Catholic Relief Services, Indiana University, Makerere University, and the University of Notre Dame.

   LASER PULSE is an acronym for Long-Term Assistance and Services for Research (LASER) Partner University-Led Solutions Engine (PULSE). The LASER PULSE consortium convenes and catalyzes a global network of Universities, government agencies, non-governmental organizations, and the private sector for research-driven, practical solutions to critical development challenges in low and middle-income countries. This is a five-year program starting from 2019 with research grants of up to US$ 5 million.

2) KLE Tech, in its endeavour to create better learning environments to students and giving them multi-cultural exposure, has entered into a MoU with Coventry University (www.coventry.ac.in), one of the leading universities of United Kingdom. Prof. Ashok Shettar, Vice Chancellor signed the MoU with Prof. Richard Dashwood, Deputy Vice-Chancellor (Research) of Coventry University on October 08, 2018.

   As per this MoU, both Universities would be collaboratively working in the areas of research, faculty development and faculty and students mobility between both universities.

   Coventry University is known for its student centered innovations and collaborative industry practices. It is recognised as University of the Year for Student Experience by The Times and Sunday Times Good University Guide 2019. As per Guardian University Guide 2019, it is ranked number 13 in the United Kingdom. From this collaboration all the stakeholders of KLE Tech are expected to be benefitted.

3) Council of Architecture (COA) has instituted award for "Excellence in Documentation of Architectural Heritage" in India. The COA Heritage Award has been instituted with an objective to encourage interest and talent of students for understanding, documentation of heritage buildings and to develop and promote sensitivity and awareness towards India's architectural heritage amongst students of architecture across the country. For COA Heritage Awards 2018, School of Architecture, KLETECH had sent two documentation projects as entries to participate in Zonal Level (5 entries to be shortlisted for National Jury). Both our Entries were Winners and selected for National Jury to be held in Ahmedabad in November 2018 and awarded Rs 10,000/- + Certificate each.

4) BVBCET, Hubli (Now KLE Tech) was given Appreciation Award by Robert Bosch for Maximum Campus Selections for the year 2017-18 Batch. Award was given during Placement Officers Meet called "Sambandh-2018" held on 1st June,2018 at Robert Bosch Bangalore Office. Robert Bosch has recruited a total of 69 Students from our college 2017-18 Batch.

5) KLE Tech Academic Private Cloud is a cloud orchestration and management software for on-demand provisioning of cloud services. It is developed to provide a common infrastructure and research environment for students and faculty working in the area of Cloud, SDN, Big Data Analytics and IoT. At present, KLE TECH Cloud is deployed with 8 servers with total of 41 cores, 288 GB RAM and 9 TB of virtualized storage. The work is in progress to extend Cloud with additional 8 servers with a total of 64 cores, 1024 GB of RAM and 80 TB of virtualized storage.

6) The Smart Stick "Drishti" developed by Students of fourth semester BE of Engineering Design and Product Realization course has been awarded with "National Budding Innovators Award of the Year 2017" by National Research Development Corporation (NRDC) on behalf of the Department of Scientific and Industrial Research (DSIR), Ministry of Science & Technology, Government of India organized a contest for demonstrating innovative prototypes for start-ups with an objective to encourage inventive talent in the Country. The team demonstrated their prototype at Vigyan Bhavan, Rajpath Road Area, Central Secretariat, New Delhi during the National Technology Day Awards Function on National Technology Day, 11th May, 2018 and were awarded with a cash prize of Rs.1,00,000

7) A team of 18 students from AeroKLE club, KLE Technological University had participated in SAE (Society of Automotive Engineers) India "Aero Design Challenge-2018" competition held at "Anna University Chennai", and won 2ndrank in Technical Presentation and top 8thposition in all India Ranking out of 109 teams that participated from various states of India. For this competition students Designed, Manufactured and Tested two remote-controlled Aeroplanes in the "Maker's Space" facility of the KLE Technological university

8) AJIT 1.0 is a humanoid robot built by the students of Automation and Robotics department. It is built as an open platform and will be available as an experimental platform. Its main application is to develop artificial intelligence, social and service robots. Version 1.0 will be wheel based locomotion and version 2.0 will be legged motion.

9) KLE Tech awarded as Ranked No 1 for "Outstanding Institutional Transformation in Engineering Education" by IUCEE (Indo Universal Collaboration for Engineering Education)

10) Dr. Ashok Shettar, Vice-chancellor KLE Technological University, received the Techno Visionary life time achievement Award from Indian Electronics & Semiconductor Association (IESA) for his contribution in building ESDM ecosystem on 27th Feb 2018.

IT Platforms and Services

The present IT infrastructure of KLE TECH was redesigned in the year 2014-15, as to cater modern engineering day's needs and challenges. We have upgraded the basic network infrastructure under TEQIP Grants; we upgraded Campus back bone from Copper to OFC.

Key features of BVBCET IT Infrastructure:

- Campus back bone is of OFC (Ring structure) 10Gbps.
- Department Internal LAN is 1Gbps.
- Number of nodes in Campus is 2700 plus (desktops).
- With 8 VLANs / sub nets and internal LAN with different topologies.
- Internet bandwidth is 375 Mbps leased line (service provider is BSNL and TATA).
- 75 wireless access points across campus and 85 across hostels. (with SSID KLE_Tech)
- More than 50 servers to cater academic needs of students.
- Firewall, AAA Server, Access point controller unit which can withstand 30 lakh concurrent sessions with highly secured network. (viz. Sophos, Aruba Controller etc..)
- Every single machine in campus is connected with internet facilities.
- Every single classroom and laboratories in campus are well equipped with audio visual facilities.
- Video conferencing and teleconferencing tools at seminar halls. (Polycom)
- 15 classrooms are equipped with lecture capturing systems(impartus)

New infrastructure

Our infrastructure is the key enabler for us to deliver world-class educational experience for our students. A major building project construction of School of Computer Science & Engineering is being undertaken.

Continuing our efforts to develop ambient green campus, new landscape projects were undertaken. The new landscape focuses on creating informal interaction space for the students in the campus.

School of Computer Science & Engineering

KLE Techpark

Board of Governors

Name	Designation
Dr. Prabhakar B. Kore	Chairperson
Prof Ashok S. Shettar	Member
The Principal Secretary/Secretary, Higher Education,Government of Karnataka.	Member
The Principal Secretary/Secretary, Medical Education, Government of Karnataka.	Member
Prof M. I. Savadatti	Member
Prof R. Natarajan	Member
Prof B. S. Sonde	Member
Dr. Sudha N. Murty	Member
Prof P. G. Tewari	Member
Prof B. L . Desai	Member Secretary

Student accolades

KLE Tech sweeps 1st prize at BOSCH

KLE Tech 6th sem Mechanical Engg students have won the 1st Prize at prestigious all India " Bosch iNSCRIBE-2017 " Technical Paper Presentation Contest. The Finals of the Contest was held on 23rd January,2018 at Robert Bosch Office in Bangalore. Total Top 31 colleges participated in the Contest. Total 13 Teams were shortlisted for Finals. In this 6 were from KLETech

KLE TECH – BVBCET LEAVES A MARK! 4th RANK OVERALL

Team Vegadooth Racing is a formula student team of KLE Technological University, revelatory part of BVB Motorsports Club that participated in SUPRA SAEINDIA 2017. The team consistently bagged 4th position among 111 teams, successfully completing all the events in both the years and leaving a mark in the competition.

Team BVB Electromacs Wins National Electric Kart Championship (NEKC) 2018

The objective of the competition was to design, conceive and fabricate an Electric Go-Kart Vehicle. The competition consisted of two rounds, namely, Virtual and Dynamic. "Team Electromacs" stood 4thplace in Virtual Round competition.

RC Aeroplane: Best Technical Presentation Award

A team of 18 students from AeroKLE club, KLE Technological University had participated in SAE (Society of Automotive Engineers) India "Aero Design Challenge-2018" competition held at "Anna University Chennai", and won 2nd rank in Technical Presentation and top 8th position in all India Ranking out of 109 teams that participated from various states of India.

DRUSHTI team wins "National Budding Innovators Award"

The smart stick "DRUSHTI" is designed to perform better compared to other smart canes available in market. The smart stick can assist the blind people without the human need and their dependency. It is well known that the blind people carry a handy stick with them whenever and wherever they need a support. This stick can even be used to protect themselves from the hazardous animals to save themselves and avoid any harm. As this product is handy and all the circuits are operated away from the body so there would be no harm to human body. It is easy to maintain and due to simple placement of the circuits on the stick and it is easily affordable.

Financials

Income and Expenditure Statement for the year 2017-18
(Includes Capital Expenditures)

Income	Amount (Rs)	Revenue Expenditures	Amount (Rs)	Capital Expenditures	Amount (Rs)
Academic Receipts	443,016,131.00	Staff Payments & Benefits	291,323,101.00	Buildings	66,452,727.00
Grants and Donations	91,104,283.00	Academic Expenses	47,923,669.00	Equipments	21,850,190.00
Income from Investments	8,705,188.00	Administrative & General Expenses	46,502,987.00	Computers	16,095,372.00
Other Incomes	6,267,859.00	Transportation Expenses	704,839.00	Furnitures & Fixtures	28,323,013.00
		Repairs & Maintenance	38,170,208.00	Software	4,232,111.00
		Finance Costs	4,622,528.00	Books	1,523,340.00
		Research and Development	6,836,680.00	Vehicle	140,784.00
		Depreciation	36,663,392.00	Research and Development	10,062,851.00
Total	**549,093,461.00**	**Total**	**472,747,404.00**	**Total**	**148,680,388.00**
		Capital Expenditure Total	148,680,388.00		
To Deficit (Excess of Expenditure over Income)	72,334,331.00				
Grand Total	**621,427,792.00**	**Grand Total**	**621,427,792.00**		

Alumni Association

Following are the BVB KLE Tech Alumni Chapters in functioning in India as on today.

Alumni Chapter Name	Admin on Whatsapp group	No. of members
BVB KLE Tech Alumni Pune chapter	B.L.Desai, T.V.Swamy, Dilip Miskin, Anant Kembhavi, Anil Sahasrabudhe, Chetana Rao, Prasad Gore, Nadagouda, Vishwajeet	**181**
BVB KLETech Alumni Bengaluru chapter	B L Desai, T V Swamy, Swetha Hooli, Akshay Anand, Jayashri Karamadi,	**162**

Following are the WhatsApp Groups formed for BVB KLE Tech Alumni in different countries across the Globe during 2017-18. Thanks to Prof.B.L.Desai who pushed his students abroad to take this initiative to create the presence of BVB Brand across Globe.

INTERNATIONAL WhatsApp Groups

Alumni Chapter Name	Admin on Whatsup group	No. of members
BVB KLE Tech Alumni WC-USA	B.L.Desai, T.V.Swamy, Basu Ullagaddi, Shivu Vibhuti, Mahadev Karadigudda, Sid Shettar	**122**
BVB KLE Tech Alumni UK	B.L.Desai, Prakash Tewari, T.V.Swamy, Arun Patil, Laxman, Yasodha, Mahesh V, Srikant Alla, Shahid, Nachi, Gangadhar, Raju Hiregoudar, Arvind Kulkarni, Anand, Basavaraj Patil, Prashant Totad	**47**
BVB KLE Tech Alumni USA	B.L.Desai, T.V.Swamy, Basu Ullagaddi, Shivu Vibhuti, Mahadev Kaadigudda, Raj Galagali,	**185**
BVB KLE Tech Alumni Germany	B.L.Desai, T.V.Swamy, Om Garagatte,	**37**
BVB KLE Tech Alumni AU (Australia)	B.L.Desai, T.V.Swamy, Savitri (Lata) Koppa	**38**

Annual General Body meeting

Annual General Body meeting was held on the 26th November, 2017 in BT Seminar Hall on University campus. Following are the highlights of the meeting.

During the program 23 beneficiaries were given scholarship of Rs.20000 each for their hostel needs under Nurture Merit @ BVBCET Project.

During the program 23 beneficiaries were given scholarship of Rs.20000 each for their hostel needs under Nurture Merit @ BVBCET Project.

Alumni Meet

With Mr.Nikhil Bhagwat leadership 19 Civil Engineering alumni of 1997 batch came together on University campus and held a meeting with their teachers on 11th December, 2018.

Alumni Meet

Prof.A.K.Kulkarni took intiative when he visited London to put the BVBians together on 15th July, 2018.

Alumni Meet in San Francisco Bay area, USA

Prof.B.L.Desai 1973 E&E alumnus and Registrar KLE Tech organized BVB Alumni Meet in San Francisco Bay area, USA – where nearly one hundred BVBians gathered for the first time. USA BVB alumni presented a memento to Prof.B.L.Desai with following words.

“Thank you for inspiring the engineer in us”

2018 INSZoom - BVB KLE Tech Hackathon

conducted by the BVB Alumni Association in the United States. We brought over 100 students and alumni in India and U.S. to create solutions for the immigration industry. Participants were asked to build solutions for challenges of Online Document Management, Online PDF Management, Web Scraping and Address Intellisense for enhancing the online immigration case management experiences for our customers offline.

U.S. Hackathon Participants pose with INSZoom CEO – Umesh Vaidyamath and the organizing committee

KLE Tech Executive Leadership Team

Dr. Ashok Shettar
Vice Chancellor

Prof. B. L. Desai
Registrar

Dr. P. G. Tewari
Dean- Academics

Dr. B. B. Kottursheṭtar
Dean- Planning & Development

Dr. Uma Mudenagudi
Dean- Research & Development

Prof Gopal Joshi
Dean, Curriculum Innovation
& programme assessment

Prof. S. B. Kurubar
Dean- Examinations

Dr. Anil Nandi
Controller of Examinations

Dr. Sanjay Kotabagi
Dean- Student Welfare

Heads of Schools / Departments

Dr. B. B. Kottursheṭtar
Mechanical

Dr. Nalini Iyer
Electronics & Communication

Dr. Meena M
Computer Science

Dr. S. S. Quadri
Civil

Dr. A. B. Raju
Electrical & Electronics

Prof. A. C. Giriyapur
Automation & Robotics

Prof Uday Muddapur
Biotechnology

Prof Gururaj Joshi
Architecture

Prof P R Patil
Master of Computer Applications

Prof S V Patil
Master of Business Administration

Prof Sanjay Kotabagi
Humanity

Prof T V Swamy
First Year

Center Heads

Prof. Nitin Kulkarni
Director, KLE CTIE

Prof. Gopal Joshi
Director, CEER

Dr. Satyadhyan Chickerur
Coordinator, CIAP

Prof. C. D. Kerure
Placement Officer

Prof. Parikshit Hegde
Head, Infocell

Dr. M. R. Patil
Head, C & M Cell

Campus Snapshots

KLE TECH

Annual Report 2017-18

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