MECHBYTES

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VISION

To evolve as a Centre of Excellence in Mechanical Engineering with a strong Industry Connect, ensuring engineers with a global perspective and professional ethics, thus adding value to society

MISSION

- To ensure proficiency in academics with emphasis on fundamental concepts and problem solving leading to practical applications in the field of Mechanical Engineering
- To provide state of the art Training in collaboration with reputed industries and institutions focussing on interdisciplinary domains
- To engage in Research, Consultancy services and promote community outreach initiatives
- To promote Faculty Development through Quality Improvement Programs and Research

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

- Graduates will apply Engineering Knowledge and demonstrate the requisite skills to meet challenges in the field of Mechanical Engineering.
- Graduates will adapt to the technological advances and relevant softwares in the industry.
- Graduates will acclimatize to real time Industrial Systems, Standards and Professional Engineering Practices.
- Graduate will exhibit Strong Values, Work Ethics, Positive Attitude, Managerial Skills and Team Work with concern for the society.

PROGRAM SPECIFIC OUTCOMES (PSOs)

- Graduates will be able to demonstrate knowledge of Maintenance Engineering Practices, Industrial Automation Tools and standard Softwares in Mechanical Engineering and related areas.
- Graduates will be able to correlate knowledge of Mechanical Engineering and allied fields with Industrial Processes, Practices and Standards through field visits, Internships and other intervention

ACADEMIC ACTIVITIES

STUDENT CHAPTERS

ISHRAE STUDENT DAY 2025

The ISHRAE Student Day 2025 brought together aspiring engineers from various institutions, providing a platform for collaboration, knowledge-sharing, and innovation in the field of HVAC (Heating, Ventilation, and Air Conditioning). Hosted at Don Bosco College of Engineering (DBCE) on 25th January 2025, by the Department of Mechanical Engineering in collaboration with ISHRAE Goa Chapter, the program featured technical talks and engaging competitions aimed at fostering creativity and technical learning among participants.

The day began with a session by Mr. Deepak Rodrigues, Associate Director and Utility Operations Head, Cipla Ltd, a leading pharmaceutical company in Verna. His talk 'HVAC Systems in Pharmaceutical Industries', explored topics such as psychrometrics, cooling load calculations, cleanroom environments, and ducting systems.

The event included several competitions designed to challenge and inspire students. The HVAC Crossword competition tested participants' technical vocabulary and knowledge, while the HVAC Innovation Battle encouraged teams to propose creative solutions to real-world case studies through detailed presentations. Additionally, the Poster Design Competition allowed students to visually communicate ideas on themes like Domestic Energy Saving Awareness and Innovative HVAC Systems for a Sustainable Future, emphasizing the importance of energy efficiency and sustainable practices. The competitions received over 30 entries from engineering colleges across Goa, showcasing the widespread interest and enthusiasm among students

The program concluded with an award ceremony, where winners of the competitions were recognized with awards and certificates. The ISHRAE Student Day 2025 successfully provided students with opportunities to learn, innovate, and connect with peers and industry experts, contributing to their professional development.

TEKFEST 2.0

TEKFEST 2.0 unfolded as a vibrant two-day intercollegiate celebration of innovation, creativity, and technical excellence. With a prize pool exceeding ₹2 lakhs, the fest attracted enthusiastic participation from institutions across the region competing in a wide array of technical and non-technical events.

The technical segment featured contests such as Robo Racer, Robo Sumo, Robo Soccer, Line Follower, Tech Pitch, Fun with Coding, CAD Clash, and a Figma UI/UX Design Challenge. These events challenged participants to apply their technical skills, problem-solving abilities, and creativity in real-time scenarios.

On the non-technical side, students showcased their strength and wit in events like Arm Wrestling, a thrilling Escape Room, and a fast-paced E-Sports Tournament featuring titles such as FIFA and Clash Royale. The Reel Making competition, focused on creativity and digital storytelling, added a modern twist to the lineup.

Held across various venues on campus, TEKFEST 2.0 was a resounding success, fostering innovation, collaboration, and an energetic campus atmosphere. The fest not only highlighted the immense talent of participating students but also reinforced Don Bosco College of Engineering's commitment to hands-on learning and holistic development.

IEI DBCE Student's Chapter celebrates World Engineering Day

The Don Bosco College of Engineering's (DBCE) Student Chapter of the Institution of Engineers, India (IEI), in association with the IEI Goa State Centre, celebrated World Engineering Day on March 21, 2025, at the college campus. This occasion also marked the installation ceremony of the new Student Chapter working committee for 2025-26.

Shri Ashish Deshpande, Managing Director, Syntegon Technology India Pvt. Ltd., Goa, served as the Chief Guest, while Dr. Anasuya Ganguly, Professor of Biological Sciences at BITS Pilani Goa Campus, was the Guest Speaker. Notable attendees included Er. Anwar Khan, Chairman, IEI Goa State Centre; Er. Siddhant Dubhashi, Secretary, IEI Goa State Centre; Fr. Kinley D'Cruz, Director, DBCE; Dr. Suraj Marathe, HOD, Mechanical Department, DBCE; and Prof. Ajit Salunke, faculty coordinator of IEI DBCE Chapter. Er. Benedicto Andrade compered the event.

Shri Ashish Deshpande shared insights on cultivating a "Growth Mindset" by embracing new challenges and emphasized entrepreneurial thinking and internship importance. Fr. Kinley highlighted the need for continuous learning for engineers. Er. Khan commended DBCE faculty for reviving the IEI chapter and initiating technical activities. Dr. Marathe encouraged students to leverage IEI involvement for professional experience. Prof. Ajit Salunke presented the chapter's annual report and future plans. Er. Dubhashi conducted the installation of the new committee members: Deep Joshi (Convenor), Aditya Mandal, Liban Khan, Denzil Godinho, Sahas Sawkar, Shravan Phadte, and Aniket Dongre.

Dr. Anasuya Ganguly delivered a talk on "3D Bio-Printing," covering extrusion printing, bioink, and applications in drug research, screening, drug delivery, and the printing of tissues and organs.

Mr. Abhishek Dais, the past Convenor, proposed the Vote of Thanks. Prof. Ajit Salunke and Prof. Sharad Shanbhag coordinated the event, which was organized by the student committee.

WORKSHOPS/ SEMINARS / WEBINARS & EXPERT TALKS

TALK ON OUTCOME BASED EDUCATION

The Mechanical Engineering Department of Don Bosco College of Engineering held a talk on "Outcome-Based Education" (OBE) for its students on January 27, 2025. Associate Professor Prof. Ajit Salunke was the speaker, with Principal Dr. Neena Panandikar briefly opening the session by highlighting OBE's significance.

Prof. Salunke explained that OBE's objective is to ensure students achieve specific, measurable learning outcomes, shifting focus from teaching to student learning and emphasizing skills demonstrated through assessments. He stressed how OBE aligns education with real-world needs and professional standards, preparing graduates for careers, and fosters student-centered learning by engaging students in achieving defined goals.

He further detailed OBE's key features, including vision and mission statements, course outcomes, program outcomes, program educational objectives, and program-specific outcomes. Prof. Salunke also discussed Bloom's Taxonomy and various assessment tools.

TALK ON CO- PO MAPPING

The Mechanical Engineering Department of Don Bosco College of Engineering organized a talk on CO-PO mapping for its teaching faculty. The session was conducted by Prof. Ajit Salunke, Associate Professor in the department.

Prof. Ajit discussed the course outcomes (COs) and provided general guidelines for writing and framing them. He explained the relationship between program outcomes (POs) and COs, along with their mapping. Further, he elaborated on Bloom's Taxonomy and its relevance to different learning levels. He detailed the CO-PO mapping process, emphasizing assessment levels based on performance indicators and the correlation between COs and POs.

Prof. Ajit also presented case studies of CO-PO mapping in undergraduate courses on Mechatronics and Energy Conversion. He concluded with valuable tips on ensuring judicious CO-PO mapping for effective PO attainment.

TRAINING PROGRAM ON ROBOT CELL PROGRAMMING AND REAL TIME IMPLEMENTATION OF INDUSTRY 4.0 AT TURBOCAM INDIA PVT. LTD.

On 7th May 2025, a half-day industrial training program was organized for the 3rd and Final year Mechanical Engineering (Honours – Smart Manufacturing) students of Don Bosco College of Engineering, Goa. The sessions were conducted at the state-of-the-art manufacturing facility of Turbocam India Pvt. Ltd., located in the Margao Industrial Estate, Nesai, Margao, Goa.

Mr. Asher D'Costa and Mr. Royston Da Costa delivered a session on the application of Robotics in the manufacturing sector, providing an insightful overview of collaborative robots (CoBots). They conducted a live demonstration on programming and controlling a CoBot using a teach pendant, following which students were given the opportunity to gain hands-on experience with the system.

Later, on the shop floor, students observed the real-time application of industrial robots and collaborative robots (CoBots) in operations such as loading and unloading of jobs, finished products, and tools at CNC centers. They witnessed smart manufacturing systems integrated with PLCs and advanced, state-of-the-art software and automation technologies. Additionally, students gained insights into systems for real-time data monitoring, machine diagnostics, and safety management, highlighting the practical implementation of Industry 4.0 concepts.

Dr. Suraj Marathe- HOD (Mechanical), Prof. Ajit Salunke, and Prof. Anish Bandekar accompanied the students. The program was jointly coordinated by Prof. Salunke, along with Mr. Asher and Mr. Gilroy Coutinho from Turbocam India Pvt. Ltd.

SEMINAR ON INVESTMENT AND TAXATION

The Department of Mechanical Engineering organized a seminar on "Basics of Taxation in India" for the second year Mechanical and Computer Engineering students of Don Bosco College of Engineering on 9th May 2025. The talk was coordinated by Prof. Ruchira S. Fal Dessai.

The resource persons were Mr. Alerio Sequeira, Financial Advisor who spoke on "Purpose and Ways of Investment" and Mr. Anup Borkar, Chartered Accountant, Anup Borkar and Associates, who spoke on "Basics of Taxation in India".

Mr. Sequeira explained the various methods of investing in the financial sector and provided insights on how to enter the financial market. Mr. Borkar elaborated on the pre- and post-taxation system in India. He explained the tax calculation for salaried persons with examples.

WORKSHOP ON MS EXCEL FOR FINAL-YEAR MECHANICAL STUDENTS

The Department of Mechanical Engineering at Don Bosco College of Engineering (DBCE) conducted a half-day workshop on "Basics of MS Excel: Formulas and Functions" for final-year Mechanical Engineering students. The session was facilitated by DBCE alumni Mr. Rollan Fernandes and Mr. Satchit Fal Desai, currently working at Eurostampa India Pvt. Ltd.

The workshop was coordinated by Mr. Sachin Turi (TPC-Mechanical) and Dr. Chetan Gaonkar (Alumni Coordinator-Mechanical), and saw active participation from 36 final-year students. The session aimed to enhance students' proficiency in Excel, a vital tool for data handling and analysis.

Participants were introduced to spreadsheet creation, formatting, and a range of essential formulas and functions, including conditional logic and complex computations. The session also covered statistical functions, helping students understand practical applications in data analysis and reporting. The alumni were felicitated by Dr. Suraj Marathe, Head of the Mechanical Department, for their contribution to student skill development. The workshop fostered interaction between students and alumni, promoting knowledge exchange and collaboration.

AUDIT COURSE IN MAINTENANCE ENGINEERING

The audit course in maintenance engineering conducted by the Mechanical Engineering Department for TE Mechanical Engineering students at Don Bosco College of Engineering provides students with a comprehensive understanding of principles and practices in the context of maintenance activities. This course aims to equip students with the knowledge and skills necessary to effectively evaluate and improve maintenance processes within an industrial setting. Five audit course sessions were conducted throughout the semester by inviting speakers from industry and academia. The details of the sessions are as follows.

Session 1: Technical Talk on Maintenance in Process Industry

The session was conducted by Mr. Gerard D'Mello, Retired Chief Manager - Projects at Zuari Agro Chemicals Ltd. and Past Chairman of the Institution of Engineers (India), Goa State Centre. He delivered an insightful talk on various types of maintenance, highlighting their respective advantages and disadvantages. He emphasized the critical role of maintenance in the process industry, discussed best practices, explored different maintenance strategies adopted in process industries, and shed light on the common challenges faced in implementing effective maintenance systems.

Session 2: Basic concepts of HVAC and its application in Industries

The resource person, Mr. Deepak Rodrigues, Associate Director and Head of Utility Operations at Cipla Ltd., delivered a talk on "HVAC Systems in Pharmaceutical Industries." He covered key topics including psychrometrics, cooling load calculations, cleanroom environments, and ducting systems. His session provided students with valuable practical insights into the challenges and industry practices associated with HVAC systems in the pharmaceutical sector.

Session 3 and 4: Practical sessions on dismantling and assembling different components

For the practical session, students were provided with components such as an air compressor, manual press machine, transformer coil winding machine, and a 2-stroke engine. They were assigned the task of dismantling and reassembling the given equipment. The objective of this activity was to help students gain hands-on experience and a deeper understanding of the internal mechanisms of these machines. The exercise involved systematically gathering the necessary tools, carefully disassembling each component, closely examining individual parts, and reassembling the equipment while ensuring proper alignment, positioning, and adherence to specifications.

Session 5: Field Visit to Sanofi Goa Development Center

The industrial visit was coordinated by Mr. Prasad Adpaikar, Manager of Engineering & Operations at Sanofi Health Care Pvt. Ltd. He began the session with a brief presentation, providing an overview of Sanofi, the various machines used, and the maintenance practices implemented for different utilities. Following the presentation, Mr. Prasad and his engineering team guided the students through the R&D unit and several auxiliary sections.

They gave a concise explanation of key equipment used in the Formulation and Development Lab, such as the Rapid Mixing Granulator (RMG), Fluidized Bed Processor (FBP), and blenders. The students were also shown the stabilization room, a vital part of the R&D process.

Additionally, the visit included a tour of the powerhouse substation, boiler and chiller sections, air handling units, compressor systems, and diesel generators, giving students a comprehensive view of the facility's utility infrastructure.

FIELD VISITS

FINAL YEAR STUDENT'S FIELD VISIT TO ISM CAMPUS

The Students of Final Year (BE) from the Department of Mechanical Engineering – Don Bosco College of Engineering (DBCE) visited the campus of the Institute of Maritime Studies (IMS), Vasco, on 17th January 2025.

The DBCE students were welcomed to the IMS campus by their Director, Mr. Shivram Kamat. Mr Heston Dias introduced the marine engineering course to the students, from training to career prospects. He elaborated on the teaching-learning process at IMS. The students were briefed about the admission process to the institute and career opportunities after completing the one-year pre-training course.

After the presentation, students were taken on a guided campus tour, which included visits to various laboratories and workshops at IMS, such as the Welding Shop, Marine Workshop, and the Automation Lab. They also had the chance to interact with DBCE Mechanical alumni currently enrolled at IMS. An interactive session was organized where students had the opportunity to ask various questions related to the course. The visit was coordinated by Mr. Sachin Turi, Assistant Professor & TPC-Mechanical, and Dr. Suraj Marathe, Head of the Mechanical Department at DBCE.

FINAL YEAR MECHANICAL STUDENT'S EDUCATIONAL TOUR TO OOTY

The final-year BE Mechanical Engineering students of Don Bosco College of Engineering embarked on an educational tour to Ooty from March 15th to 20th, 2025.

Students on the educational tour explored both a Tea and Chocolate Factory, observing advanced machinery like tea rollers, drying units, and chocolate tempering machines. They then visited a Eucalyptus Oil Extraction Factory, gaining a comprehensive understanding of the process from crushing leaves to examining distillation units and separators, learning about steam distillation principles and how machinery ensures oil quality and purity.

On March 19, the group experienced a memorable ride on the Nilgiri Mountain Railway, a UNESCO World Heritage Site known as the "toy train." This journey demonstrated mechanical engineering principles through its unique rack-and-pinion system for navigating steep gradients. Afterwards, students visited the War Museum at the Madras Regimental Centre in Wellington. Here, they saw an extensive collection of historical weaponry and war

machinery, exploring the evolution of weapon designs, materials, and the mechanical principles and innovations that influenced military strategies.

Prof. Sanjeel Naik and Prof. Ruchira Fal Dessai accompanied the students on the tour.

DBCE Students Visit Goa Occupational Safety and Health Summit

On April 12, 2025, Don Bosco College of Engineering students, including second-year Mechanical Engineering students and members of the college's Fire Safety and Security Association of India (FSAI) Chapter, attended the 1st Goa Occupational Safety and Health Summit – 2025. This three-day event, organized by the Inspectorate of Factories and Boilers, Government of Goa, took place at the Dr. Shyama Prasad Mukherjee Indoor Stadium in Bambolim.

The summit provided a valuable opportunity for students to engage with the latest developments in occupational safety and health. The event featured numerous industry exhibitors and technical sessions on key safety challenges and innovations. Students

interacted with professionals, explored current safety technologies, and gained insights into workplace safety practices across various sectors.

A standout session was Mr. Vithoba Gad's (HPCL Safety Officer) technical presentation on "Safe Household Use of LPG." This covered essential safety practices for LPG cylinder storage and handling, common household hazards, emergency response, and community safety awareness.

Students also attended a session on "Handling of Chemicals in Industry and Chemical Hazards," which emphasized personal protective equipment and safe chemical handling protocols. These sessions significantly enhanced students' understanding of real-world safety measures and the importance of rigorous standards.

Faculty members Dr. Suraj Marathe, Prof. Ajit Salunke, and Prof. Aniket Naik from the FSAI Chapter, along with Dr. Chetan Gaonkar, Prof. Anish Bandekar, and Mr. Dattaguru Sawardekar, accompanied the students. The summit proved to be an enriching academic and professional experience for all.

TE MECHANICAL STUDENT'S VISIT TO SANOFI GOA DEVELOPMENT CENTER

On 15th April 2025, students from the third year Mechanical Engineering (DBCE) embarked on a field visit to Sanofi Healthcare India Pvt. Ltd. as part of their Audit Course in Maintenance Engineering. Students were accompanied by faculty members, Prof. Swapnil Ramani, Prof. Sharad Shanbhag and Prof. Gaurish Samant. The visit was organized under the guidance of Mr. Prasad Adpaikar, Manager of Engineering & Operations at Sanofi Health Care Pvt Ltd.

The visit started with a brief presentation which covered the overview of Sanofi, various machines and various maintenance practices followed for the various utilities.

After the brief overview the students were taken to the R&D unit and to the various auxiliary units by Mr Prasad and his engineering team. Different equipment's used in Formulation and Development Lab such as Rapid Mixing Granulator (RMG), Fluidized Bed Processor (FBP), blender, bilayer tablet punching machine; disintegration apparatus, sensitive weighing balances etc were briefly explained. Students were also shown stabilization room which is a critical component in the R&D process. It is designed to simulate various environmental conditions to assess the stability and shelf-life of pharmaceutical products.

Students also explored the powerhouse substation, Boiler & chiller section, Air handling Units, compressor units, Diesel generators etc. During the visit, students were able to see the newly installed 1800KW solar panel. They were shown the monitoring system, which tracks the panel's performance, energy produced, and carbon emissions saved.

TRAINING & PLACEMENT

The Department of Mechanical Engineering at DBCE consistently instills strong work ethics and corporate leadership in its students. Through tireless collaboration with prominent companies, the institution ensures enhanced career opportunities. This year's placements saw a remarkable response.

- Neha Bhandari will be joining FORVIA, a global automotive technology company that develops and manufactures solutions for sustainable mobility, including seating, interiors, and clean mobility systems.

- Delton Savio Fernandes, Prathamesh Chandgadkar, and Yash Atish Kurade have been selected by ARIES MARINE, a multinational conglomerate that provides engineering, inspection, and maintenance services for the maritime, offshore, and oil & gas industries.

- Mr. Somesh Gokuldas Sawant and Mr. Arya A. Naik will be working at IFB AC Plant, a division of IFB Industries, an Indian home appliances company that manufactures air conditioners as part of its wider range of consumer goods.

- Aaron Rodrigues will begin his career at Speed Engineering, a diversified engineering services company that helps clients design and develop innovative products, equipment, systems, and plants across various industrial sectors.

- Kim Estibeiro has been placed at Adage Automation Pvt. Ltd., a specialist in gas analytical solutions, providing integrated systems for process optimization, safety, and continuous emission monitoring across industries like oil & gas, steel, and power.

- Aniket Bhaskar and Rio De Mello will join Buoyancy Consultants, an Indian design, engineering, and consultancy firm specializing in comprehensive ship and offshore design services, including naval architecture, structural analysis, and green solutions.

- Xavier Fernandes and Nolan Noel Goes will be part of Smartline Coach Components Pvt. Ltd., an Indian company that manufactures coach components such as hatracks, ABS AC ducts, and interior trims for leading coach manufacturers in India.

FACULTY INITIATIVES

PAPER/ JOURNAL PUBLICATIONS

Sr . No.	Author Name	Title of Paper	Details of Journal name, volume, series, year/ Conference Details	National/ International
1	Ajit Salunke	"Estimation of Physical Properties of Unboiled Type Arecanuts using Load Cell and Ellipsoid Approximation"	3rd International Conference on Mechatronics, Control, and Robotics (ICMCR 2025), held at National University of Singapore.	International Conference Paper published in IEEE explore
2	Gaurish Samant	An Investigation into the surface roughness (RA) of 3D-printed components fabricated through both DLP and FDM techniques	Industrial Engineering Journal Vol- XVIII Issue no.2 Feb-2025 ISSN- 0970-2555	Indexed in Indian citation index, ICI and UGC care list

WORKSHOPS/SEMINARS/EXPERT TALKS ATTENDED

Sr. No	Seminar/Workshop/ Short Term Courses/ Conferences/ Training Programmes etc.	Date	Duration	Organiz-ation	Name of the Staff Participated
1	NPTEL course on design practices for intelligent product design	Feb-April 2025	8 Weeks	IIT Kanpur	Prof. Sanjeel Naik
2	NPTEL course on Engine system and Performance	Jan-April 2025	12 Weeks	IIT Guwahati	Prof. Sharad Shanbhag Mr. Dattaguru Sawardekar
3	NPTEL course on Manufacturing of turbines (gas, steam, hydro and wind)	Feb-April 2025	8 Weeks	IIT Mandi	Prof. Sharad Shanbhag
4	NPTEL course on Quality Control and Improvement with MINITAB	Feb-April 2025	8 Weeks	IIT Bombay	Prof. Swapnil Ramani

FACULTY INITIATIVES AND ACHIEVEMENTS

DR. SALUNKE EARNS PHD FOR INNOVATIVE ARECANUT GRADING RESEARCH

Dr. Ajit Salunke, Associate Professor in the Department of Mechanical Engineering at Don Bosco College of Engineering (DBCE), has successfully defended his PhD thesis titled "Development of Arecanut Grading Equipment Using Mechanical and Visual Methods and Optimization of Process Parameters."

He pursued his doctoral research at Visvesvaraya Technological University (VTU) under the supervision of Dr. Sunilkumar Honnungar, Associate Professor in the Department of Mechanical Engineering at SDM College of Engineering and Technology, which also served as his research center.

PROF. GAURISH SAMANT NOMINATED TO GOVERNING COUNCIL OF GSCERT

Prof. Gaurish Mahabaleshwar Samant has been nominated to the newly formed Governing Council of the Goa State Council of Educational Research and Training (GSCERT). He attended the council meeting on April 4, 2025, at Mantralaya, Goa, chaired by Chief Minister Dr. Pramod Sawant. Prof. Samant actively contributed ideas on improving education quality and governance.

POLYTECHNIC STUDENTS FROM ACROSS GOA ATTEND CNC PROGRAMMING AND MACHINING WORKSHOP AT DBCE

The Department of Mechanical Engineering at Don Bosco College of Engineering (DBCE), Fatorda, organized a series of workshops on CNC programming and machining for final-year diploma students from four polytechnic institutes in Goa. A total of 69 students from Agnel Polytechnic Verna, Government Polytechnic Panaji, Government Polytechnic Curchorem, and the Institute of Shipbuilding and Technology Vasco participated in this activity held between 20th February and 13th March 2025. The sessions were planned and conducted by Mr. Sachin Turi, Assistant Professor, and Dr. Suraj Marathe, Head of the Mechanical Engineering Department at DBCE.

Each visiting group was welcomed to the campus and introduced to the Mechanical Department by Dr. Marathe, who spoke about the many career opportunities available to mechanical engineers and the growing importance of learning modern manufacturing

technologies like CNC. Students took part in a guided tour of the CNC lab and attended a hands-on session using Mastercam software for NC code generation. The session involved creating a turning component, beginning with process planning and followed by cutter path simulation for validation. These sessions were conducted by Mr. Sachin Turi, Mr. Aniket Naik, and Mr. Sujesh Girodkar.

Following the software training, students were taken to the CNC Milling and Turning Centres, where Mr. Gaurish Samant explained the machine's working principles and axis systems. This was followed by a live demonstration of a turning. The demonstrations helped students understand the full machining process in real time.

In addition to CNC-focused training, students from Agnel Polytechnic also explored the Automobile Engineering and CAD-CAM Laboratories and were demonstrated various automotive systems and presented a comprehensive overview of the BMW 2L TwinPower Turbo Diesel Engine with Automatic Transmission, including its internal components and operational features. The group also visited the welding workshop, where they were introduced to TIG and MIG welding setups and procedures.

Faculty members from each institute accompanied their students during the visit. The program concluded with a short interaction session where Fr. Kinley D'Cruz, Director of DBCE, and Dr. Neena Panandikar, Principal of DBCE, addressed the students and wished them success in their careers.

Through this outreach initiative, the Department of Mechanical Engineering at DBCE provided students from other institutes with an opportunity to experience and learn about modern machining technologies, which form an important part of today's engineering practices.

DBCE Faculty Inspire Students Across Goa through Vidnyan Dhara 2025

As part of Vidnyan Dhara 2025, a science lecture series organized by the Directorate of Higher Education and the Goa State Higher Education Council, faculty from Don Bosco College of Engineering's Mechanical Engineering Department conducted a series of interactive sessions across schools in Goa. The initiative aimed to spark scientific curiosity and promote STEM education among young learners.

Prof. Ajit Salunke delivered two impactful talks during the series. At Shishu Vikas School, Margao, he presented "3D Printing in Healthcare," introducing students to additive manufacturing applications such as biomedical implants, prosthetics, surgical instruments, and 3D bioprinting advancements. Later, at Cuncolim United High School, he spoke on "Smart Farming Technologies for the Future," highlighting Agriculture 4.0 and the role of robotics, drones, AI, and IoT in transforming farming practices.

Dr. Suraj Marathe engaged students at Government High School, Valkini Sanguem, and Utkarsh High School, Rivona, with lectures on "Use of Simulation in Science," demonstrating simulation's relevance in research, military training, aerospace, and sports.

Mr. Sachin Tukaram Turi brought creativity and engineering together in his session on "Origami: The Art and Engineering of Paper Folding" at M.I.B.K. High School, Khandepar, and Swami Vivekanand VMS Higher Secondary School, Borim, involving hands-on activities and practical examples in robotics and disaster response.

Mr. Aniket Ashok Naik spoke on "Understanding Hydrogen as Future Fuel for Automobiles" at Perpetual Succour Convent High School, Navelim, and Regina Mundi High School, Vasco, educating students about clean energy alternatives.

Together, these sessions successfully made advanced scientific concepts accessible and inspiring for students across Goa.

PROF. ANIKET NAIK GRACES SCIENCE SPARK 2025 AS CHIEF GUEST

Perpetual Succour Convent High School, Navelim, celebrated Science Spark 2025 on February 27, 2025, under the theme "Empowering Indian Youth for Global Leadership in Science and Innovation for Viksit Bharat." Prof. Aniket Naik, Assistant Professor in Mechanical Engineering at Don Bosco College of Engineering, was the Chief Guest, with Sr. Berna Rodrigues, Superior General of the Congregation of SFN, as the Guest of Honor. Prof. Naik emphasized the importance of scientific thinking and innovation, urging students to contribute to India's technological transformation.

PROF. AJIT SALUNKE PRESENTS AT ICMCR 2025, SINGAPORE

Prof. Ajit Salunke from Don Bosco College of Engineering presented his research on estimating physical properties of unboiled arecanuts using load cell data and ellipsoid approximation at ICMCR 2025, held at the National University of Singapore. His study enables real-time quality grading using machine vision. The conference featured global researchers, with papers to be published in IEEE Xplore. Prof. Salunke's participation was supported by the Department of Science, Technology, and Waste Management, Government of Goa.

STUDENT CORNER

STUDENT ACHIEVEMENTS

DBCE Mechanical Stars Lead Basketball Team to Second Consecutive Goa University Championship!

Huge congratulations to our mechanical engineering students, Cavan Serrao, Aaron Rodrigues, and Anish Barreto! These talented individuals were instrumental in leading the Don Bosco College of Engineering's basketball team to their second consecutive Goa University Men's Championship title. They showcased exceptional skill and teamwork in a decisive 85-64 victory over St. Xavier's College. What an incredible achievement for our students and the entire DBCE community!

DBCE Mechanical Students Participation in National Level Technical Project Competition – INGENIOUS-2025

A team of four final year Mechanical engineering students of Don Bosco College of Engineering, Kshitij Naik, Masilon Mascarenhas, Prathamesh Changadkar and Ashley Carvalho participated in “INGENIOUS-2025" National Level Technical Project Competition, organised by Angadi Institute of Technology and Management, Belagavi on the occasion of National Science Day on 28th February 2025. The students were guided and accompanied by Prof. Aniket Naik.

The students showcased the project titled "Design and Fabrication of Rear Modular Wiper" and the idea was very well appreciated by the judges and the attendees. The event provided them valuable exposure and gave an opportunity to showcase their potential to contribute meaningfully to the engineering field.

FAREWELL

BE MECHANICAL FAREWELL 2025

The farewell ceremony for the Graduating Class of BE Mechanical – 2025 was held on 19th May 2025 in the college auditorium. The event marked the culmination of the students' academic journey and provided an opportunity to celebrate and bid adieu to the outgoing batch.

Dr. Suraj Marathe, Head of the Mechanical Engineering Department reflected on the growth, accomplishments, and resilience displayed by the graduating students. Principal Dr. Neena Panandikar acknowledged the students' significant contributions to the field of engineering and wished them immense success in their future endeavors. Director, Rev. Fr. Kinley D'Cruz, offered thoughtful advice, encouraging students to pursue excellence with integrity and to remember the values instilled in them during their time at the institution.

Mr. Cavan Serrao was conferred the title of Best Outgoing Student of the Mechanical Engineering Department, in honour of his exceptional achievements and significant contributions throughout his academic journey. Mr. Dattaraj Gawas was bestowed with the Most Distinguished Alumni Award – 2025 in recognition of his remarkable accomplishments and unwavering support towards the institute.

The ceremony featured engaging games and heartfelt reflections on memorable college experiences, seamlessly blending nostalgia with celebration. Amidst heartfelt farewells and warm wishes, students conveyed their sincere gratitude towards the faculty for the knowledge imparted, the enduring friendships formed, and the cherished memories created during their journey at DBCE.

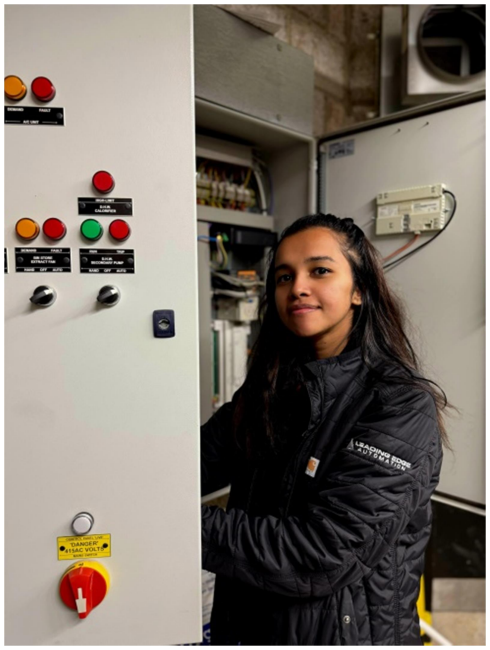

Department of Mechanical Engineering
Welcomes You
Farewell
BE Mechanical

ALUMNI INTERVIEW

ALUMNI PROFILE: AN INTERVIEW OF MS. MALAIKA KORGAONKAR

Interview and Transcript by Mr. Elden Rodrigues

Earlier this year one of our student Mr. Elden Rodrigues had the opportunity of interviewing Ms. Malaika Korgaonkar, alumni of Department of Mechanical Engineering, Don Bosco College of Engineering Goa, currently working Controls Engineer at Leading Edge Automation UK, a company specializing in Building Management Systems.



Elden: Can you describe your career path after graduation?

Malaika: My interest in Mechatronics grew during my third year of Mechanical Engineering. I then pursued an MSc in Mechatronics & Intelligent Machines in the UK for two years. During my master's, I worked as a student mentor and completed an internship in Egypt focusing on AI in agriculture, which tied into my thesis in reinforcement learning. After graduation, I joined Leading Edge Automation UK as a Graduate Controls Engineer, transitioning to a Controls/Service Engineer role within a year.

Elden: What do you enjoy most about your job?

Malaika: I enjoy that no two days are the same. Every day brings a new challenge—troubleshooting, rectifying glitches, or finding workarounds. The feeling of accomplishment when resolving tricky on-site issues is incredibly rewarding.

Elden: What are the biggest challenges you face in your role?

Malaika: The biggest challenge is balancing technical skills with people skills. Effective communication is crucial, whether presenting ideas, writing documentation, or handling client conversations. Building strong relationships with both clients and the team makes the job smoother.

Elden: What are the current trends or challenges in your industry?

Malaika: Major trends in building automation include AI and IoT integration for energy efficiency and comfort, and the shift towards cloud-based solutions for remote access and predictive maintenance. Challenges involve integrating new tech with legacy systems and cyber security concerns as systems become more interconnected.

Elden: How has technology impacted your field since you graduated?

Malaika: Since I started, electric vehicles and control systems became integral to mechanical systems. Now, everything is part of comprehensive mechatronic systems. AI has significantly impacted building management systems, especially in achieving energy efficiency. The integration of AI, IoT, and cloud computing has been a game-changer for smarter, more sustainable operations.

Elden: What advice would you give someone just starting out in your field?

Malaika: Explore as much as you can. Mechatronics is vast. Don't rush to pick a niche. Dive into different areas, work on varied projects, and talk to professionals. Find what truly excites you, and then focus on it.

Elden: If you could go back and change one thing about your career journey, what would it be?

Malaika: I'd change my attitude as a student. I was too focused on grades, not enough on practical experience. I wish I had prioritized hands-on skill development and real-world projects earlier.

Elden: What are some common mistakes you see young professionals make?

Malaika: Taking feedback personally or avoiding it, and overcommitting. Embracing constructive criticism is vital for growth. Overcommitting leads to burnout and affects work quality and work-life balance. Learning to set boundaries is key.

Elden: How important has networking been in your career, and how do you approach it?

Malaika: Networking has played a role, especially during university for opportunities. Now, I focus on maintaining strong relationships with clients and colleagues. Client meets and conferences occasionally help me stay connected and updated.

Elden: What skills or knowledge do you wish you had developed earlier in your career?

Malaika: I wish I had developed people skills earlier. As engineers, we prioritize technical, but communication, collaboration, and relationship management are equally important. Also, exploring emerging technologies like AI, IoT and automation sooner would have given me a head start.