MECHBYTES

NEWSLETTER OF MECHANICAL ENGINEERING DEPARTMENT

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Editors (Faculty):

Mr. Tanay Rege

Mr. Anish Bandekar

Editor (Student):

Mr. Anrio Da Costa

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.
- Graduates 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

INSTALLATION OF THE MESH COUNCILS FOR THE YEAR 2025-26

The Mechanical Engineering Students' Hub (MESH) Council and the Electronics and Computer Science Engineering Students' Council (ECSInC) of Don Bosco College of Engineering jointly conducted the installation ceremony of their respective committees for the academic year 2025–26 on August 23, 2025. The event was graced by Chief Guest Ms. Raileen Rego, HR and Admin at NETZSCH Technologies India Pvt. Ltd., along with the esteemed presence of Fr. Wilfred Fernandes (Director), Dr. Neena Panandikar (Principal), Dr. Suraj Marathe (Head of the Mechanical Engineering Department), and Dr. D. S. Vidhya (Head of the Electronics and Computer Science Department).

Ms. Raileen Rego urged students to nurture curiosity as a lifelong habit of learning, while also being courageous and compassionate in taking on risks and challenges. She expressed her delight at seeing many women engineers present and encouraged them to pursue their careers in engineering, contribute innovative ideas, and drive transformation across industries. Dr. Neena Panandikar introduced a new multidisciplinary postgraduate program and motivated students to make the most of this opportunity. She also advised the newly appointed committee members to develop a strategic plan for the upcoming events. Fr. Wilfred congratulated the outgoing committee for their commendable efforts and inspired students to push their limits, broaden their perspectives, and strive for excellence. He extended his best wishes to the newly elected council for a successful year ahead.

Mr. Josiah Fernandes presented an overview of the activities conducted by MESH during the past year. This was followed by the oath-taking ceremony of the newly elected members of both the MESH and ECSInC councils. The event concluded with a vote of thanks delivered by MESH Chairman, Mr. Mazen Leitao. Mr. Britt Vales and Ms. Esther Mascarenhas expertly compered the event.

FSAI WORKSHOP ON "UNDERSTANDING FIRE HAZARDS"

The Mechanical Engineering Department, in collaboration with the FSAI DBCE Student Chapter, conducted a workshop on "Understanding Fire Hazards" on 8th August 2025. The inaugural ceremony was graced by representatives of the FSAI Goa Chapter, including President Mr. Anand Ramakrishnan and Secretary Mr. Brian Dias, followed by Mr. Ashok

Menon, former Director of Fire & Emergency Services, Goa, Rector Rev. Fr. Ralin De Souza, Administrator Rev. Fr. Leo Pereira, Principal Dr. Neena Panandikar, and Dr. Suraj Marathe, Head of the Mechanical Engineering Department.

Prof. Aniket Naik, Coordinator of the FSAI DBCE Chapter, delivered the welcome address, followed by an insightful talk from Mr. Anand Ramakrishnan, who highlighted the need for expertise from core engineering disciplines to design and implement effective fire safety solutions. Rector Rev. Fr. Ralin De Souza encouraged students to "practice what you learn", especially when it comes to life-saving skills such as fire safety. Principal Dr. Neena Panandikar stressed the importance of preparedness and awareness, remarking that "Fire safety is not just a regulation; it's a responsibility we all share." The annual report was presented by Mr. Anish Barretto, President of the Student Chapter.

The session featured Mr. Menon as the guest speaker. He explained the concepts of the fire triangle and tetrahedron, emphasizing the severe risks of smoke inhalation. Mr. Menon also discussed common fire hazards found in kitchens, household wiring, server rooms, workshops, hospitals, electric vehicles, and other environments. Further, he elaborated on the different classes of fire and the appropriate types of fire extinguishers for each.

Mr. Ajit Kamat, Assistant Divisional Officer (Retd.), DFES, conducted a hands-on demonstration on the proper use of fire extinguishers and showcased the operation of a fire hydrant. The workshop saw active participation from both faculty members, technical staff and students of DBCE.

2-Days National Workshop on "Industry 4.0 and Smart Manufacturing – Transforming Future Factories"

The Institution of Engineers (India), Goa State Centre, in association with Don Bosco College of Engineering (DBCE), Fatorda, and Turbocam India Pvt. Ltd., organized a two-day national workshop on "Industry 4.0 & Smart Manufacturing – Transforming Future Factories" on 16th and 17th October 2025 at the DBCE campus and Turbocam plant, Margao Industrial Estate.

The workshop saw active participation from industry professionals of Goa Shipyard Ltd., Sanofi Healthcare India Pvt. Ltd., and Danlaw Technologies India Ltd., along with academicians from NIT Goa, PCCE, IMS, AITD, DBCE, and DBCE students pursuing Honours in Smart Manufacturing.

The event was inaugurated by Mr. Sanjay Amonkar, Director General, Goa Chamber of Commerce and Industry, who highlighted Industry 4.0 as a holistic transformation beyond technology, capable of positioning India as a global leader, while cautioning against excessive dependence on AI considering employment sustainability. The inaugural function was graced by Fr. Ralin De Souza (Rector, Don Bosco Fatorda), Fr. Wilfred Fernandes (Director, DBCE), Dr. Neena Panandikar (Principal, DBCE), Er. Anwar Khan (President, IEI Goa State Centre), and Mr. Roger Gomes (Director, Turbocam).

Dr. Suraj Marathe, Head of Mechanical Engineering and Workshop Convenor, delivered the welcome address, while Dr. Ajit Salunke introduced the theme. Er. Benedicto Andrade compered the programme. Prof. Sharad Shanbhag served as Co-coordinator. Mr. Abhishek Dais was awarded the Distinguished Student Member of the IEI DBCE chapter for 2025–26.

The workshop featured expert sessions by eminent resource persons from BITS Pilani (Goa Campus), IIT Goa, Goa University, Padre Conceição College of Engineering, DBCE, Turbocam India Pvt. Ltd., and Government ITI Cacora. Topics covered included Smart Technologies for Industry 4.0, Additive Manufacturing (FFF), AI/ML in industrial optimization, Industry 4.0 data flow, Virtual and Augmented Reality, AI-based condition monitoring, predictive maintenance, and Robotics & Computer Vision.

A half-day hands-on session at Turbocam India Pvt. Ltd. provided participants with practical exposure to real-time Industry 4.0 implementation, including observation of a fully operational robotic cell, offering valuable insights into smart manufacturing in an industrial environment.

WORKSHOPS/ SEMINARS / WEBINARS & EXPERT TALKS

WORKSHOP ON INTERNET OF THINGS

The Mechanical Department of Don Bosco College of Engineering organized a one-day workshop on "Internet of Things" on 9th August 2025. The sessions were conducted by Mr. Ketan Naik from Asier Technologies, who provided an in-depth demonstration of the IoT kits.The workshop was attended by faculty members and technical staff of the department, along with the student members of the MecHEADS group.

Mr. Ketan conducted a hands-on demonstration of the Arduino kit, showcasing its application in control systems. He explained the integration and operation of Wi-Fi and Bluetooth modules for wireless communication, and further demonstrated the data flow through the Thing Speak cloud platform, illustrating how sensor data can be collected, transmitted, and visualized in real time. The workshop was organised by Dr. Ajit Salunke and Prof. Anish Bandekar.

ASHRAE ORIENTATION PROGRAM

An orientation programme on ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) was conducted at Don Bosco College of Engineering (DBCE) by office bearers of the ASHRAE Mumbai Chapter. The session introduced students to ASHRAE's mission, global network, and professional development opportunities in HVAC&R, building systems, and energy efficiency.

The speakers emphasized the advantages of student membership, technical resources, industry linkages, and upcoming activities offered through the Mumbai Chapter. The programme concluded with an interactive Q&A session, motivating students to actively engage in ASHRAE initiatives for professional growth. The session was attended by Second and Third Year Mechanical Engineering students. Dignitaries from the ASHRAE Mumbai Chapter included Ms. Sangita Jhangiani (President), Mr. Mahesh Prabhu (Past President), Prof. Kunal Bhavsar (Student Activities Chair), and Mr. Balakrishna Chodankar (Vice President).

ENGINEERS DAY 2025- TECHTALKS

The Institution–Industry Cell (IIC) and the Department of Mechanical Engineering, Don Bosco College of Engineering, commemorated Engineers' Day on 15 September 2025 with expert talks that effectively bridged theory and industrial practice.

The first session was delivered by Mr. Elias Vaz, General Manager and Head – Commercial and Logistics, Paradeep Phosphates Ltd., Goa Unit, on "Creative Thinking: Case Study of a Process Industry." He illustrated the innovative application of core engineering concepts such as tribology, electromagnetic discharge, and bending moment diagrams to solve complex industrial challenges. Drawing from a real case study, he emphasized the role of creativity in process optimization and problem-solving.

The second session featured Mr. Siddesh Samant, Head – Project Management, Syntegon Technology India Pvt. Ltd., who spoke on "Project Management in Large-Scale Complex Projects." Sharing experiences from a major project in the Algerian Sahara Desert during his tenure at L&T, he discussed challenges in executing large-scale oil and gas projects. He also highlighted modularization as an effective strategy to enhance efficiency, coordination, and control in complex projects.

The event was coordinated by Dr. Ajit Salunke and Mr. Sanjeel Naik.

TALK ON 'APPLICATIONS OF ADDITIVE MANUFACTURING IN AEROSPACE SECTOR'

The Department of Mechanical Engineering, Don Bosco College of Engineering, Fatorda–Goa, organized a technical talk on "Applications of Additive Manufacturing in the Aerospace Sector" on 13 October 2025. The session was delivered by Prof. Rajkumar Sureshchandra Pant, Professor, Department of Aerospace Engineering, IIT Mumbai.

Prof. Pant provided insights into the fundamentals and evolution of Additive Manufacturing (AM) from rapid prototyping to mainstream aerospace production. He explained how AM enables lightweight, high-strength components, enhancing fuel efficiency and design flexibility. Applications such as turbine blades, brackets, and fuel nozzles were discussed, along with topology optimization and lattice structures. He also highlighted advanced materials including titanium alloys and high-temperature polymers, supported by case studies from Airbus, Boeing, and ISRO, and addressed challenges related to certification, surface finish, and post-processing.

The session concluded with an interactive Q&A, allowing students and faculty to explore current research and development trends in aerospace additive manufacturing.

Dr. Neena Panandikar, Principal, expressed her appreciation to Prof. Pant and the organizing department. Dr. Suraj Marathe, Head of Mechanical Engineering, encouraged students to participate in national-level aerospace competitions and pursue innovation in additive manufacturing. The talk was coordinated by Mr. Gaurish M. Samant, Assistant Professor, Mechanical Engineering Department.

DBCE Mechanical Students Attend Drone Boot Camp

Students from the Department of Mechanical Engineering, Don Bosco College of Engineering, Mazen Leitao, Dev Kalgutkar, and Aniketh Dongre participated in a one-week Drone Boot Camp, organized by the Government College of Commerce and Economics, Borda, Margao, from 13th to 17th October 2025. The event was inaugurated by the Chief Guest, Mr. Bhushan Savaikar, Director of Higher Education, Government of Goa. Key contributors included Prof. F. M. Nadaf, Dr. Kavita Asnani, Mr. Harish Chandra from C-DAC Bengaluru, and other distinguished experts.

The program offered a comprehensive blend of theoretical and practical learning focused on drone technology, including sessions on UAV regulations, classifications, architecture, communication protocols, and frame design. Participants also received hands-on training in 3D modelling using Autodesk Fusion 360, integrating BLDC motors and propellers into digital designs, followed by drone assembly and flight trials. The sessions concluded with the dismantling of the drones for component analysis and programming exercises using STM32CubeIDE software.

The workshop was an enriching experience, equipping students with vital skills in drone operation, design, and application while inspiring them to explore the potential of UAVs across diverse sectors.

WORKSHOP ON "COST & COMPETITIVENESS OF MSMES IN INDIA" AT GCCI

A Cluster-Level Workshop on "Cost & Competitiveness of MSMEs in India" was held on 5th November 2025 at the GCCI Conference Hall, organized by the MSME–Development & Facilitation Office (DFO), Margao, under the Ministry of MSME, Government of India, and hosted by the Goa Chamber of Commerce & Industry (GCCI). The event was attended by Prof. Swapnil Ramani, Assistant Professor in the Department of Mechanical Engineering at DBCE, and Mr. Reuben, a BE Mechanical student at DBCE, who both actively contributed to the enriching discussions.

The workshop focused on strategies to enhance the cost efficiency and global competitiveness of MSMEs through improved productivity, technology adoption, and cluster-based development. Representatives from various clusters, including Konkan Maritime, Tourism, Pharma, IT, and Food Processing, actively participated. Experts delivered insightful sessions on cost management, lean manufacturing, digital transformation, and government schemes supporting MSMEs. The event provided an excellent platform for interaction among industry members, policymakers, and entrepreneurs, highlighting the importance of collaboration in strengthening Goa's MSME ecosystem by inviting speakers from industry and academia.

FIELD VISITS

FINAL YEAR STUDENT'S FIELD VISIT TO IMS CAMPUS

Final Year Mechanical Engineering students of Don Bosco College of Engineering visited the campus of Institute of Maritime studies (IMS), Vasco on 31st October 2025. The students were warmly welcomed to the IMS campus by Director Mr. Shivram Kamat. This was followed by a session led by Mr. Heston Dias, who introduced the Marine Engineering course, outlining its training components and career prospects. He also elaborated on the teaching–learning process at IMS, giving students valuable insights into academic and practical aspects of the program. The students were briefed about the admission procedures and the career opportunities available after completing the One-Year Pre-Sea Training Course at IMS.

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."

Later, an interactive session was organized, giving students the opportunity to discuss various topics 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.

INDUSTRIAL VISIT TO RAVINDRA BHAVAN AND ICE BANK, BENAULIM

The final-year Mechanical Engineering students of Don Bosco College of Engineering, Fatorda, with an interest in the HVAC-R domain, undertook an industrial visit on 26th November 2025. At Ravindra Bhavan, Margao, the students observed the operation of a central chilled-water air-conditioning plant, including the chiller, cooling tower, water-circulation systems, AHUs and the associated ducting network. The visit helped them understand how large building HVAC systems are installed and maintained, providing meaningful real-world learning beyond classroom concepts.

At Ice Bank, Benaulim, students explored block ice production refrigeration system and purified tube ice used in the food and beverage industry, along with key components like air- and water-cooled condensers, oil separators, and different types of compressors used in industrial refrigeration systems, learning about their compatibility with respective refrigerants. The visit offered hands-on exposure to industrial refrigeration processes and equipment.

The students were accompanied by Mr. Tanay Rege, Assistant Professor, Mechanical Engineering Department. Mr. Cooper Pinto Pereira, Proprietor of Ice Bank, and Mr. Baburao Torodkar, Technical Staff at Ravindra Bhavan facilitated the visit.

FACULTY INITIATIVES

PAPER/ JOURNAL PUBLICATIONS

Sr . No.	Author Name	Title of Paper	Details of Journal name, volume, series, year/ Conference Details	National/ International
1	Dr. Chetan Gaonkar	Influence of Material and Geometric Parameters on Acoustic Bandgaps of Plate-type Acoustic Metamaterials with Composite Resonators	8th International Conference on Recent Advances in Composite Materials (ICRACM) at IIT Varanasi	International Conference

WORKSHOPS/SEMINARS/EXPERT TALKS ATTENDED

Sr. No	Seminar/Workshop/ Short Term Courses/ Conferences/ Training Programmes etc.	Date	Duration	Organization	Name of the Staff Participated
1	Interdisciplinary Manufacturing Process Advances and Characterization Techniques	22nd -26th July 2025	5 days	Jain College of Engineering and Research	Dr. Avil D'sa
2	Academic Leadership Programme (ALP)- Phase I at the Infosys Training Centre in Hyderabad	8th -12th Sept 2025	5 days	DHE and GSHEC in collaboration with Infosys Springboard	Dr. Suraj Marathe
3	AICTE ATAL FDP on Green Technology for Engineering Faculty	15th -20th Sept 2025	1 week	Dr. D.Y. Patil College of Engineering	Dr.Suraj Marathe Dr. Chetan Gaonkar Prof. Tanay Rege
4	FDP on AI for Teaching and Learning	18th -29th Aug 2025	2- week online	Electronics and ICT Academics supported by MeitY, Govt of India and IIT Guwahati	Dr. Avil Dsa
5	FDP on Additive Manufacturing for Sustainable Applications	18th -22nd Aug 2025	1 week online	Yashoda Technical Campus, Satara	Dr. Avil Dsa

6	AICTE ATAL FDP on Design, Development, and Optimization of Electric Vehicles for a Green Future	6th -11th Oct 2025	1 week online	Shri Mata Vaishno Devi University	Mr. Dattaguru S
7	Academic Leadership Programme (ALP)- Phase II	3rd- 8th Nov 2025	1 week	DHE, SCERT building, Porvorim	Dr. Suraj Marathe
8	NPTEL course on Advances in Welding and Joining Technologies	Aug-Oct 2025	8 week	IIT, Guwahati	Prof. Anish B
9	NPTEL course on Research methodology	July-Sept 2025	8 week	IIT, Madras	Prof. Sanjeel Naik
10	NPTEL course on Introduction to Machine Learning	July-Oct 2025	12 week	IIT, Madras	Prof. Sanjeel Naik
11	NPTEL course on Fundamentals of Heat Transfer	July-Oct 2025	12 week	IIT, Kharagpur	Prof. Sharad S
12	Academic Leadership Programme (ALP)- Phase III	6th -12th Dec 2025	1 week	ISB, Mohali Campus	Dr. Suraj Marathe
13	Applications of AI- ML in Civil Engineering.	27th – 29th Nov 2025	3 Days	DBCE, Goa.	Prof. Sachin Turi

FACULTY INITIATIVES AND ACHIEVEMENTS

TANAY REGE INVITED AS JUDGE AND SPEAKER AT SCIENCE EXHIBITIONS

Mr. Tanay Rege, Assistant Professor- Department of Mechanical Engineering, DBCE, was invited to serve as a judge for the Science Project Exhibitions held at two prominent schools in South Goa — Vidhya Vikas Academy, Margao, on 31st July 2025, and Navy Children School, Vasco, on 2nd August 2025. Both exhibitions featured a wide range of projects by students across different grade levels, reflecting originality, scientific understanding, and application of concepts.

Mr. Rege was also invited to deliver a short talk during the inaugural ceremony at Vidhya Vikas Academy. His talk focused on Biomimetics, a field where nature-inspired designs have

led to significant technological advancements - aiming to spark curiosity and encourage students to observe and learn from the natural world.

DBCE Mechanical Faculty attend workshop on Renewable Energy Storage: Challenges and Solutions

Faculty members of the Mechanical Engineering Department, Don Bosco College of Engineering—Dr. Suraj Marathe, Dr. Ajit Salunke, Prof. Sharad Shanbhag, and technical staff member Mr. Dattaguru Sawardekar—attended a workshop on "Renewable Energy Storage: Challenges and Solutions" on 9 August 2025. The workshop was organized by the Institution of Engineers (India), Goa State Centre, in association with the Goa Chamber of Commerce and Industry (GCCI), at the GCCI Hall, Panaji.

The inaugural session was graced by Mr. Stephen Fernandes, Chief Electrical Engineer, Goa Electricity Department, along with Mrs. Pratima Dhond, President, GCCI, and office bearers of IEI and GCCI.

The first technical session by Er. Yeswant Natekar, CEO, JNK Renewable Energy Pvt. Ltd., focused on clean technologies and the role of renewable materials and innovative engineering in reducing environmental impact through sustainable design and resource conservation.

The second session was delivered by Mr. Alex Hunter, CEO and Founder, Sherwood Power, UK, who presented advanced compressed air energy storage technology, highlighting its potential for grid stability, peak load management, and applications in cold chains and industrial refrigeration.

DBCE Faculty Attend CII Conference on Shipbuilding

On 15th September 2025, faculty members of the Mechanical Engineering Department, Dr. Suraj Marathe (Associate Professor and Head of Department), Mr. Sachin Turi, and Mr. Tanay Rege (Assistant Professors), participated in the CII Conference on Shipbuilding held at ITC Grand, Goa. The event brought together policymakers, industry leaders, researchers, and academicians to deliberate on the future of India's shipbuilding sector and its role in strengthening coastal and inland waterways.

The conference featured sessions on infrastructure development, ship financing and investment, green shipping and government support, research and product innovation, shipyard strategies, and skill development for allied industries. The participants gained valuable insights into industry challenges and opportunities, which will help in enriching classroom teaching and guiding students towards projects that reflect current trends in marine and allied industries.

58TH Engineers' Day Celebration by IEI Goa State Centre

The Institution of Engineers (India), Goa State Centre, celebrated the 58th Engineers' Day on 20th September 2025 at Double Tree by Hilton, Panaji, to commemorate the birth anniversary of Bharat Ratna Sir M. Visvesvaraya. The event was marked by recognition of contributions in the field of engineering and technology.

The celebration was graced by the Chief Guest, Shri. Digambar Kamat, Hon'ble Minister for PWD, Captain of Ports & Legal Metrology, who addressed the gathering and appreciated the engineering community's role in nation-building.

The keynote address was delivered by Dr. M.S. Krupashankara, Principal, Goa

Engineering College, who spoke on the theme “Deep Tech and Engineering Excellence.” He emphasized the urgent need to ramp up Indian technological capabilities to compete globally and called for deeper integration of advanced technologies in core engineering sectors.

Dr. Ajit Salunke and Asst. Prof. Sharad Shanbhag were honored by the IEI Goa State Centre for their significant contributions to the technical activities at DBCE, in recognition of their commitment to advancing engineering education and innovation. Mr. Myron Fernandes, an IEI student member and graduate of the 2024-25 batch, was also felicitated for his exceptional academic accomplishments.

INSTITUTE VISIT OF AGNEL POLYTECHNIC, VERNA

The Department of Mechanical Engineering of DBCE organized a half-day institute visit for the third-year Mechanical Engineering students from Agnel Polytechnic, Verna. Coordinated by Mr. Sachin Turi and Dr. Suraj Marathe, the visit included a tour of the CNC Centre, hands-on training with Master CAM software for NC code generation, and a demonstration of machining on the CNC milling and Turning Centers. This visit was organized in line with the students’ elective subject on CAD/CAM for their Diploma studies.

The visit commenced with an introduction to the Mechanical Engineering Department by Dr. Suraj Marathe, HOD. He highlighted the extensive job opportunities available for Mechanical Engineers in the industry and emphasized the importance of acquiring skills in the latest machining technologies, such as CNC, for manufacturing.

Assistant Professors Mr. Sachin Turi and Mr. Aniket Naik conducted the Master-CAM sessions. Following this, Assistant Professor Mr. Gaurish Samant introduced the students to the CNC Milling and Turning Centre. The visit concluded with a live demonstration of the Turning machining process by Mr. Diptesh Naik, Lab Assistant at the CNC Centre.

The students were accompanied by Dr. Rylan Caldeira, Head of the Mechanical Engineering Department at Agnel Polytechnic, Verna. The visit concluded

with an engaging interaction between the students and Dr. Neena Panandikar, Principal of DBCE, along with Fr. Wilfred Fernandes, Director of DBCE. They extended their best wishes for the students' academic journey and offered valuable guidance for their future careers.

TRAINING SESSION ON ROOT CAUSE ANALYSIS FOR KONKAN RAILWAY ENGINEERS

Mr. Tanay Rege, Assistant Professor, Department of Mechanical Engineering, Don Bosco College of Engineering, Fatorda, conducted a half-day training session training session on "Root Cause Analysis (RCA)" for engineers from Konkan Railway Corporation Ltd. on 18th October 2025.

The session, held at one of the Konkan Railway maintenance yards, covered structured problem-solving techniques such as the 5 Whys, Fishbone Diagram, Pareto Analysis, and Failure Mode and Effects Analysis (FMEA), illustrated through practical mechanical maintenance examples.

A total of 31 participants, including Junior Engineers, Section Engineers, and Senior Section Engineers from units across Goa, Maharashtra, and Karnataka, attended the session. The training focused on equipping participants with a systematic approach to identifying and eliminating recurring maintenance issues through data-driven analysis and corrective actions.

INSTITUTE VISIT – GOVERNMENT HIGH SCHOOL NETURLIM, SANGUEM

The Department of Mechanical Engineering at Don Bosco College of Engineering (DBCE) organized a half-day institute visit for the students of Government High School, Neturlim on 20th November 2025. Coordinated by Dr. Suraj Marathe and Dr. Chetan Gaonkar, the visit aimed to introduce students to various engineering domains and inspire early interest in technical education.

The program commenced with an Introductory Session on Engineering conducted by Dr. Suraj Marathe, Head of the Department, along with Dr. Chetan Gaonkar. They highlighted the wide range of career

opportunities in Engineering and emphasized the importance of developing skills in emerging and modern technologies.

Following the session, the students were taken on a guided tour of the department's laboratories. Assistant Professor Mr. Aniket Naik explained the functioning and applications of various systems in the Automobile Lab. The group then visited the CNC Milling and Turning Centre, where Assistant Professor Mr. Anish Bandekar and Mr. Diptesh Naik demonstrated CNC operations and discussed their relevance in precision manufacturing.

The visit concluded with a live 3D printing demonstration and a tour of the Prototyping Lab, conducted by Mr. Sidhant Panjikar from the Goa State Innovation Council. Students gained valuable hands-on exposure to rapid prototyping tools and innovative design processes.

The students were accompanied by faculty members of the school. The program ended with an interactive session where Dr. Marathe encouraged the students to explore the engineering field and offered insightful guidance for their academic and career development.

TRAINING PROGRAM ON SMART PORTS AND DIGITAL TRANSFORMATION OF PORTS

Dr. Ajit Salunke, Associate Professor, Department of Mechanical Engineering, Don Bosco College of Engineering, Fatorda, conducted a half-day training program on "Smart Ports & Digital Transformation of Ports" for engineers of the Mormugao Port Trust (MPT) on 25th November 2025 at the port premises.

Dr. Salunke highlighted the rapid digital shift taking place in the global maritime sector and explained how emerging technologies such as Industrial IoT, smart sensors, AI/ML, digital twins, 5G communication, machine vision, and autonomous vehicles are reshaping modern port operations. He elaborated on smart port infrastructure and emphasised the importance of IoT-based sensing, wireless communication systems, and predictive analytics in enhancing efficiency and safety.

The session included detailed case studies from major ports such as Singapore, Tianjin, Vietnam, and Livorno, illustrating practical applications of real-time monitoring, autonomous logistics, and zero-carbon terminal initiatives. India's progress under Maritime India Vision 2030, particularly AI-enabled land management systems and next-generation command-control centres, was also discussed.

The training provided participants with valuable insights into operational optimisation, safety enhancement, energy management, and the technological advancements required to develop future-ready smart ports

FACULTY TRAINING UNDER ACADEMIC LEADERSHIP PROGRAMME (ALP)

Faculty members of Don Bosco College of Engineering participated in the Academic Leadership Programme (ALP) – Batch II (2025–26), a faculty training initiative conducted by the Directorate of Higher Education (DHE), Goa, in collaboration with the Goa State Higher Education Council (GSHEC). Three DBCE faculty members—Dr. Suraj Marathe, Dr. Gaurang Patkar, and Dr. Shwetha P.—were selected for the programme.

The programme was conducted in three phases and focused on academic leadership, governance, implementation of NEP 2020, digital transformation, and the use of AI-enabled tools in higher education. Training sessions were held at the Infosys Campus, Hyderabad, and the Indian School of Business (ISB), Mohali. The programme also included institutional exposure visits to universities and research institutions, providing insights into academic administration, research practices, and leadership approaches.

The training is expected to support the Mechanical Engineering Department in strengthening academic planning, technology-enabled teaching practices, and alignment with national higher education reforms.

STUDENT CORNER

STUDENT ACHIEVEMENTS

MR. VASANT NAIK'S ART SHOWCASED AT SERENDIPITY FESTIVAL GOA 2025 AND SEVA PARV 2025!

We are delighted to share that our Mechanical Engineering Department student, Mr. Vasant Naik, had his sculpture work showcased at the Serendipity Arts Festival 2025 held in Panjim, Goa from 12–21 December 2025, one of South Asia's largest multidisciplinary arts festivals celebrating visual arts, performance, music, craft, and more.

His creative contribution stood among inspiring works featured at this landmark 10th edition of the festival, marking a significant achievement and recognition in a prestigious public arts platform.

SILVER MEDAL GLORY FOR MR. BRITT VALES

The department extends its heartfelt congratulations to Mr. Britt Vales of TE Mechanical Engineering for winning the Silver Medal at the Goa University Men's Best Physique Competition in the 85 kg+ category.

DBCE Students Qualify for Semi-Finals ISHRAE AQUEST 2026

Students of Don Bosco College of Engineering, Mr. Raul Baracho and Mr. MystynGracias, represented the college at the ISHRAE AQUEST 2026 Competition. After successfully qualifying at the State Chapter level, they progressed to the Zonal Quarter Final round.

The Zonal Quarter Finals for the West 1 and West 2 zones of ISHRAE were held at Nashik on 3rd January 2026, with participation from 26 engineering colleges across Maharashtra and Gujarat.

Demonstrating exceptional technical competence and teamwork, Mr. Raul Baracho and Mr. Mystyn Gracias secured Second Place at the zonal level, earning qualification for the Semi-Finals, where they will compete against the North Zone Quarter Final winners.

IMS Passing Out Ceremony

The Institute of Maritime Studies (IMS), Goa conducted the Final Passing Out Ceremony for the 28th Batch of Graduate Entry Cadets and the 24th Batch of Diploma Entry Cadets on 28 November 2025 at the IMS Ground, Vasco da Gama. The event was attended by Dr. Suraj Marathe, Head of the Mechanical Engineering Department, and Dr. Ajit Salunke, Associate Professor, representing Don Bosco College of Engineering.

The ceremony was presided over by Shri Sanjay Nair, Director – Technical Projects and Innovation, Scorpio Marine Management India Pvt. Ltd., Shri Larson D'Sa, Chairman, Institute of Marine Engineers (India), Goa Branch, and Shri Brajesh Kumar Upadhyay, Chairman, SITEG, Goa.

The programme featured a Guard of Honour inspection, ceremonial march past, prize distribution, and the presentation of certificates and mementos to the graduating cadets. Representatives from both batches also addressed the gathering, reflecting on their training and journey at IMS.

It was a proud moment for DBCE, as 11 alumni were among the cadets passing out this year. The college extends its heartfelt congratulations to all its graduates and wishes them success as they embark on their professional maritime careers.

The event concluded with a vote of thanks by Shri Shivram Kamat, Director, IMS, who acknowledged the support of faculty, staff, and industry partners in shaping the cadets' future.

STUDENT ARTICLE

SCROLLING THROUGH A LIFE WE DIDN'T CHOOSE

By Anish Barreto, BE Mech

When was the last time you sat down to study and didn't think to yourself "let me scroll though my phone and check something" and boom just like that you've been there 30 minutes, doomscrolling just an endless array of short videos that have been handpicked to exactly what you like.

Have you ever taken a step back and wondered when was the last time you made a decision entirely on your own? When was the last time you put together a playlist of songs you actually enjoy? When did you last eat at a restaurant that you picked not based on reviews or your algorithm but solely on the love for the food and hospitality the place has to offer? I could go on and on about how we are so vastly dependent on the algorithm and everything that it has done doing and will do for.

This isn't just you This isn't accidental, infact just before I was writing this very article I myself succumbed to this vexation. This defiantly does not mean you are lazy, undisciplined or even that you lack will power. Its how we lived that has changed, how we live in a world that is now designed to decide for us. From what we watch to what we eat to what we see and what we buy, quietly efficiently and constantly.

Over time these small influences show up in the smallest part of our day. That one song we picked one morning has us listening throughout the day or even over a span of a few days. Its not based on our mood or state of mind but purely based recommendation rather than intention. Its doesn't stop at music but the tv shows we watch. We don't pick shows anymore they just turn up based on what we have watched previously. Even something as simple as getting from one place to another has changed. We follow navigation apps step by step, turning when told, stopping when instructed, without ever really knowing where we are. Over time, we stop noticing landmarks, stop understanding distances, and stop building a mental map of our own city or campus. We reach our destination faster, but with no sense of connection to the journey itself. Movement becomes mechanical — efficient, yet strangely empty — another example of how convenience saves time while quietly disengaging the mind.

The result of all this isn't just distraction — it's exhaustion. Not the kind that comes from long lectures or late nights, but a constant mental tiredness that never quite goes away. We feel unmotivated even when deadlines are close, restless even during breaks, and overwhelmed by tasks that once felt manageable. Focus becomes harder to sustain, not because we are incapable, but because our attention is constantly being pulled in different directions. In a life that has been made easier and more efficient, thinking deeply and staying present has quietly become harder.

Now most of you will get me wrong and throw the question, "don't you use this technology too? Doesn't it make your life easier?" And the most important one "didn't you use this tech to write the article we are reading?" well yes, I did but you have got the perspective wrong These tools genuinely make student life easier — lectures are recorded, information is instant, and communication is effortless. In many ways, we are more connected and informed than any generation before us. The problem begins when convenience shifts from being a support system to a substitute for thinking and choosing. When every decision is filtered, ranked, and suggested in advance, we stop engaging with the process of deciding for ourselves. Over time, this quiet outsourcing of choice weakens our ability to focus, commit, and sit with discomfort — the very skills that college is meant to help us develop. What we gain in efficiency, we may be slowly trading away in intention and awareness.

The point isn't to reject technology or unplug entirely, but to become aware of how much of our daily life now runs on autopilot. College is one of the few phases of life meant for exploration — of ideas, routines, interests, and even discomfort. Yet if every choice is already made for us, that exploration quietly disappears. Perhaps the real challenge today isn't managing our time better or becoming more disciplined, but learning how to pause, choose intentionally, and be present in moments that no algorithm can optimize. In a world that constantly decides for us, reclaiming our attention might be the most meaningful choice we can still make.

ALUMNI INTERVIEW

ALUMNI PROFILE: AN INTERVIEW OF MR. OLENCIO ZUZARTE

Interview and Transcript by Mr. Anrio Da Costa

Earlier this year, the Department of Mechanical Engineering conducted an interview with Mr. Olencio Zuzarte, Founder and Proprietor of WoodSap. WoodSap is a creative studio specializing in the design and manufacture of home furniture and related products. During the interaction, Mr. Zuzarte shared insights into his entrepreneurial journey, the manufacturing processes involved in custom furniture design, and the challenges of running a production-oriented studio

Anrio: Can you tell us about your journey from being a mechanical engineer to starting Woodsap?

Olencio: After completing mechanical engineering, I chose to pursue entrepreneurship and build something of my own. I had a strong interest in working with wood and experimenting with resin, which was further strengthened during my studies through the subject Fibre Reinforced Polymers (FRP), where I learned about epoxy resin and its practical applications. By combining wood and resin, I began creating products that eventually evolved into WoodSap, marking the beginning of my entrepreneurial journey.

Anrio: What inspired you to become an entrepreneur?

Olencio: I have always enjoyed creating and experimenting. Rather than following a conventional career path, I chose to pursue work aligned with my interests in Goa. My diploma and engineering studies helped me realize the importance of matching career choices with one's skills and passion, which inspired me to base my final-year project on fabrication work related to my business idea—later evolving into WoodSap.

Anrio: What important lessons have you learned as a business owner?

Olencio: Every journey has good days and bad days — and you must learn to face the bad ones without giving up. When you start something new, nothing comes easy.

Anrio: What challenges did you face while starting Woodsap Enterprises?

Olencio: Every fresh start has away a difficult route. It's all about the flow or continuous effort and learning. You have to figure out suppliers, source materials, without a research of database, as you keep trying, and trying all things eventually start falling into place.

Anrio: What mistakes should students avoid during their college years?

Olencio: If I were in college again, I'd advise students to find a niche they truly enjoy and explore it alongside their studies. Beyond engineering fundamentals, learning skills like Arduino or Raspberry Pi can be valuable. Most importantly, focus on experimenting and developing depth in one area rather than spreading yourself thin.

Anrio: What actions can students take right now to improve their future careers?

Olencio: Although education is more accessible today, industry expectations remain high. Employers value strong fundamentals and practical competence. Students should focus on understanding concepts rather than relying on shortcuts or tools, and build hands-on experience and real problem-solving skills for long-term success.

Anrio: What are the most important skills (technical or soft skills) that today's mechanical engineers must have?

Olencio: Regardless of specific career expectations, it is essential to be competent in the field one chooses. As future mechanical engineers or managers, students should understand the processes behind the systems they work with. Beyond fixing or managing outcomes, engineers must be able to identify root causes and understand why a problem occurs. This requires learning beyond one's immediate specialization and continuously expanding technical knowledge and skills.

Anrio: How important has networking been in your career and what did you do as you approached?

Olencio: Networking is crucial. Even the best product won't succeed if no one knows about it. As the saying goes, your network is your net-worth—the right connections often open doors through recommendations and opportunities. Without networking, success becomes much harder to achieve.

Anrio: Many students dream of starting their own business. What advice would you give them?

Olencio: Yes, you can start your own business; it's often easier than it seems. Challenges and discouragement are inevitable, but staying committed is key. Many students think they need a lot to begin, but you can start with the resources you already have. Even a small space, like a garage, can serve as the foundation for a workshop. The most important step is simply to start.

Anrio: How should students use their time in college to build something for the future?

Olencio: I highly recommend working on small projects even before your final-year project. These don't have to be expensive — even simple projects, like building a torch, can teach valuable lessons. You learn to choose materials, design components, control electronics, and improve functionality step by step. Small hands-on projects, such as home automation or DIY devices, help develop practical skills, problem-solving ability, and design thinking. The key is consistent effort and a willingness to experiment.