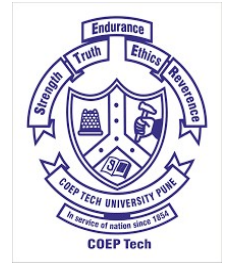


COEP Technological University

PIWOT Exhibition report



The COEP Technological university Pune exhibited various technologies/devices developed by the students in the PAN-IIT World of Technology (PIWOT) global summit held on 18th and 19th January 2025 at BKC, Mumbai. the technologies in the field of Agriculture, Healthcare, Eco-technology, 3D printing prototyping and COEP's unique Satellite program were exhibited by the students.

Following list of technologies/devices were demonstrated at the exhibition by the COEP Tech. University:

sr.no	Project Title	Description
1	BETiC	<p>The department also set up a Biomedical Engineering & Technology Incubation Centre (BETiC) which is a highly ambitious initiative with the vision to provide a single window access to experts and facilities for medical device lifecycle engineering, enabling seamless transition from market research to device development.</p> <p>Hybrid splint is meant to be used as first-aid kit for trekkers, school children, and road travellers, useful for immobilizing the limbs in the event of accidents causing bone fractures. Compared to fiberglass splints used in current practice, the innovation is lighter and yet provides the optimal bending stiffness. The materials, manufacturing process and packaging were fine-tuned to make it easier to apply while ensuring it is affordable to intended end-users.</p> <p>Skin spray gun, to treat 2nd degree burn patients. The device is developed under BETIC program of COEP. This device received Biomedical Ignition grant of Rs. 50 Lakhs in year 2018. The device is commercialized by the startup Pacify medical technologies Ltd.</p> <p>The Endotracheal tube blockage monitoring device is a device to detect real time blockage in the endotracheal tube to avoid trauma in the patient due to blockage of endotracheal tube. The device is developed in the BETIC program of COEP. This device received Biomedical Ignition grant of Rs. 50 Lakhs in the year 2019</p>
	3D Make Lab	<p>What You See Is What You Build (WYSIWYB) is the way to Rapid Prototyping (RP). It allows users to consider the design with fewer concerns over how it can be built. Now anyone can learn about it and do it, in a fully-equipped workshop, with training and expertise to help one all the way from Thinking to Printing!</p> <p>COEP has kick started the initiative of the 3D Make Lab. It's a public-access facility for 3D printing, and related technology – Concept to Creation (C2C) . We provide a platform where students and companies can build upon their creative concepts, research and development work and make it ready.</p>
2	Endotracheal tube blockage monitoring device (ETT)	<p>The Endotracheal tube blockage monitoring device is a device to detect real time blockage in the endotracheal tube to avoid trauma in the patient due to blockage of endotracheal tube. The device is developed in the BETIC program of COEP. This device received Biomedical Ignition grant of Rs. 50 Lakhs in the year 2019.</p>
3	The Ion Thruster	<p>The Ion Thruster project develops a propulsion system that uses ionized particles accelerated by electric fields to generate thrust. This clean and efficient technology is ideal for UAVs and space applications, offering high fuel efficiency and minimal environmental impact. The project focuses on designing and optimizing the ionization chamber and electric grids, paving the way for sustainable and long-duration missions.</p>
4	The GreenLamps	<p>The GreenLamps project integrates a vertical-axis wind turbine with an air purifier to create a sustainable energy solution. The turbine, designed with NACA 0018 airfoil blades, generates electricity to power the air purifier and supply surplus energy to the grid. This innovative system not only promotes clean energy generation but also improves air quality, offering a dual benefit for urban environments. The project emphasizes sustainability and practical application of renewable energy technologies.</p>
5	COEP Satellites	<p>After the successful launch of SWAYAM Satellite in 2016, the COEP's Satellite Team is working on its next missions, CSAT-2 and PS4 respectively. The CSAT-2 Satellite aims to demonstrate Orbit Maneuvering using Solar-Sailing. It is a novel technology promising a efficient mode of thrust for deep space mission. Additionally, CSAT-2 will monitor charged particle environment in the low-earth orbit which will help the scientific community with valuable data of Alpha-particles in the Van-Allen belt in Earth's atmosphere.</p> <p>The PS4 mission demonstrates a deployable and retractable Solar-array. It is designed as a payload to be mounted on ISRO's PSLV launch vehicle's 4th stage as a part of the PSLV Orbital Experimental Module (POEM) Program. This payload will validate the feasibility of flexible solar array as a compact and efficient alternative of traditional right solar panels.</p>

6	Multi-Purpose Biomass Pellet Stove	<p>A Multipurpose Biomass Pellet Stove is a compact and portable device that uses biomass pellets as fuel for various purposes like cooking, heating bathwater, roasting, steaming, and preheating. Following are the key Features and Benefits:</p> <ul style="list-style-type: none"> • Versatility: Suitable for multiple cooking and heating needs. • Portability: Lightweight and compact design makes it ideal for travel and outdoor use. • Efficiency: Burns fuel efficiently with minimal smoke and emissions. • Convenience: Features like adjustable heat settings, ash removal window, and continuous auto pellet feeding enhance ease of use. • Environmental Sustainability: Utilizes a renewable energy source (biomass pellets). • Cost-Effectiveness: Offers a potentially more affordable alternative to traditional fuels.
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Photographs from the event:

