





# COEP Technological University, Pune

The COEP Tech University (Formerly College of Engineering Pune) was established in 1854. It is one of the oldest and premier engineering institutions in the country. COEP Tech offers undergraduate Programs in 10 disciplines and post graduate programs in 27 specializations. It is a recognized Research Center for doctoral programs of the Savitribai Phule Pune University as well as QIP Centre. COEP Tech has been consistently ranked amongst the top 50 technical institutes in India and its alumni have a lion's share in the development of national infrastructure.

## MTech (Robotics & Artificial Intelligence)

MTech (Robotics & AI) course at COEP Technological University Pune (Started in 2020) is first of its kind, recognized by AICTE. The two-year full time post graduate program in Robotics & Artificial Intelligence clearly addresses the very issues cited. It aims to develop professional Robotics and AI Engineers capable of solving multifaceted AI and Robotics problems and to be effective change Engineers. COEP provides reality-based learning and on-the-job training to students through internships for their project work in second year of curriculum. This is an Interdisciplinary course and admits graduates from various major engineering disciplines.

## BTech (Robotics & Artificial Intelligence)

BTech (Robotics & AI) is a AICTE recognized course, first of its kind, being started this year at COEP Technological University, Pune. It is Four-year full time undergraduate program in Robotics & Artificial Intelligence. Total six electives, four separate tracks e.g. Robotics, AI, Mechatronics, Control Systems are planned so that each student can develop in individual's area of interest.

The global industrial robotics market was valued at USD 26.52 billion in 2022 and is expected to expand at a compound annual growth rate (CAGR) of 10.5% from 2023 to 2030 (Ref.: [www.grandviewresearch.com](http://www.grandviewresearch.com)). The Global AI market is projected to grow at CAGR of 39.4% to reach US\$ 422.37 billion by 2028 and AI market in India is projected to grow at a CAGR of 20.2% to reach US\$ 7.8 billion by 2025 (Ref.: [www.ibef.org](http://www.ibef.org))

Robotics Related Areas of Applications	Artificial Intelligence Related Areas of Applications
Manufacturing	Robotics
Space Explorations	Navigation
Agriculture	Agriculture
Health care	Healthcare
Underwater Explorations	E - Commerce
Military	Application Software
Customer Services	Marketing
Education	Education
Food Industry	Social Media
Security	Human Resources
Automobiles	Automobiles
Entertainment	Gaming



## Facilities for BTech (R&AI) at COEP Tech University

1. Center of Excellence in Robotics & Automation
2. Centralized Robotics & Automation Laboratory
3. Industrial Robots Laboratory
4. Robot Study Circle - Forum for co-curricular activity in Robotics
5. Aerial Robot Study Circle - Forum for co-curricular activity in aerial Robotics
6. The Robotics Society, India - Student Chapter at COEP Tech University

## Center of Excellence in Robotics & Automation

The center of Excellence Promotes Students and faculty to learn the Various Robotics concepts and use them in real time small projects or mini projects for the real life application. A multidisciplinary applied research center of excellence in robotics could also focus on developing new applications for robotic systems.

### Objectives:

1. To become a leading research institution that supports the creation of primary research platforms for prospective researchers.
2. To incorporate Project based Learning to enhance creativity, Innovation and to improve learning outcomes.
3. To build durable and reliable robotics systems, facilitate the development of related technical standards and tools
4. To make progress in the field of robotics through the application of innovative research in robotics, and to participate in the ongoing transformation in these areas.
5. To facilitate collaboration between the industry and academia, allowing them to work towards achieving mutual benefits.



Robot Programming Training at KUKA, Pune



Robotics Lecture to Beginners at COEP

## Centralized Robotics & Automation Laboratory

This Centralized Laboratory was established on 16th Sept 2004 and relocated after renovation at the present location at Manufacturing Engg & on 27th Aug 2008.

Following systems are present in the lab.

1. Robosapien - Programmable Biomorphic Robot, Woowee, Hong Kong
2. Boe-Bot - Wheeled, tank, crawling, etc., PARALLEX, USA



NAO-6, Softbank Robotics



Genibo Robot, Dasatech



Toddler - Parallax

3. Toddler - Biped robot / two legged, PARALLEX, USA
4. Hex Crawler - Six legged, PARALLEX, USA
5. Fire-Bird - Research Platform of E-Yantra, TIT Powai
6. GENIBO - Artificial Intelligence based Robot Dog, Dasatech, Korea
7. Transducer Instrumentation Trainer Kit, Dynalog, Mumbai, India
8. NAO 6 - A Humanoid Robot, Aldebran, Softbank, France



Mitsubishi Assista RV-5AS-D  
6-dof Collaborative Robot



Robot System Engineering Laboratory

## Centralized Industrial Robots Laboratory

This Centralized Laboratory was started on 27th Aug 2004 as a part of centralized Robotics & Automation Laboratory. It was relocated as a separate lab in Dec 2016 after arrival of ABB Robot Training Cell.

1. Mitsubishi Movemaster - 5-dof Industrial Robot, Japan
2. SCORBOT- ER V plus - 5-dof Industrial Robot Arm, Inteltek, USA
3. SCORBOT- ER VIII - 5-dof Industrial Robot, Inteltek, USA
4. YASKAWA - 6-dof Motomen series Industrial Robot, Japan
5. ABB 6400 iRB - 6-dof Industrial Robot, ABB, Switzerland
6. Delta Robot - Nugenix, Ichalkaranji, India
7. ABB 1520 ID - 6-dof robot with complete training cell, ABB, Switzerland
8. Mitsubishi Assista RV-5AS-D - 6-dof Collaborative Robot, Mitsubishi Electric Corp, Japan



ABB 1520 ID  
6-DoF Industrial Robot with Welding  
Fixture, Matrix table & Conveyor



ABB 6400 iRB  
6-DoF Industrial Robot