## Department of Manufacturing Engineering and Industrial Management





COEP Technological University Pune

### About COEP Technological University, Pune

COEP Technological University earlier College of Engineering, Pune (COEP), chartered in 1854 is a nationally acclaimed leader in technical education. The institute is distinguished by its commitment to finding solutions to the great predicaments of the day through advanced technology. The institute has a rich history and dedication to the pursuit of excellence. COEP Tech offers a unique learning experience across a spectrum of academic and social experiences. With a firm footing in truth and humanity, the institute gives you an understanding of bothtechnical developments and the ethics that go with it. The curriculum is designed to enhance your academic experience through opportunities like internships, study abroad programs and research facilities. The hallmark of COEP Tech education is its strong and widespread alumni network, support of the industry and the camaraderie that the institute shares with several foreign universities. The institute is consistently ranked amongst the top 20 technical colleges in India and its alumni have contributed a lion's share in development of national infrastructure.

### History of the Department

The workshop department has its roots in 1872 when it was set up as an ancillary production unit enabling conceptual philosophy of integrated teaching. During the first World War 1914 - 1918, much of our machinery had been commanded for the war work. Theworkshop then helped in making and testing shell blanks and such other things. In 1927 the workshop area was trebled with an increase in intake of student in Mechanical Engineering and other disciplines.

M/S Cooper Engineering Satara, just prior to the Second World War, removed the obsolete boiler and diesel engine operated shafting for machines and replaced them with electrical drives. Also, during the second world war of 1939 M/S Cooper Engineering Satara used the workshop infrastructure facilities which manufactures hardware for ammunition Factory.

In 1950 the Artisians Technical Training Center (ATTC) was established with mass production machines and precision machines replacing older machines to train ITI students who underwent a two-year course to generate highly skilled technicians for defense projects and industries.

This ATTC came to a close in 1973 to mark the beginning of establishment of Production Center which started in 1973 began to fulfil the requirements of Engineering colleges, Polytechnics, ITI schools etc. Products were designed and manufactured using spare capacity available. The workshop was equipped with latest types of equipment and Machinery. Separate highly skilled technical staff was assigned to this section.

In 1976, to imbibe leadership, team approach, integrity and directed efforts within the students, "Project" was introduced at final-year curriculum by University of Pune

We conjure up the visions of the future...

In the midst of musings and imagination, we see emergence of Production Engineering branch being established in the college.

While the substantial demand in Production Engineering students necessitated the need for a separate department to meet the post globalization plans of the government, on August 15, 1994, the workshop was named as **'Department of Production Engineering and Workshop** with the commencement of Postgraduate program in Production Engineering being introduced in August 1994. In the following year in the June 1995, the undergraduate course in Production Engineering (Sandwich Pattern) was introduced with 60 intake.

Curriculum offered by the department reflects interrelationship amongst sciences, production engineering and management. The structure provides a platform to evolve multidisciplinary skill sets amongst the students alike, to interact and develop new perspectives in manufacturing engineering. Curriculum provides industry exposure by way of Sandwich Training and Project work.

To transform creative and innovative ideas of students into prototypes, the workshop which is the central facility of the Institute, provides a platform for students to hone their skills and exploit their potential in shaping their ideas. The department caters students of the University, lending support for the fabrication of all kinds of project and research work.

Department provides students practical knowledge of engineering practices with emphasis on manufacturing techniques in relation to workability, formability and machinability with hand tools and power tools. Students are allowed to process, fabricate, and measure different components/objects. They learn measuring techniques using different measuring instruments being practiced in Industries and get a feel of dimensions, tolerances, and surface roughness. Students are motivated through fabrication of utility products which are subsequently used by the institute in house by the respective departments. Department thus facilitates the students with an opportunity to acquire knowledge, skill, and expertise in manufacturing practice.

On January 4, 2011, Mrs. Supriya Sule, Honorable Member of Parliament, Government of India, inaugurated newly renovated "VINOD DOSHI Memorial Workshop". The support from from Mr. Maitreya Doshi, Chairman and Managing Director, Premier Ltd. and President of the Shri. Lalchand Hirachand trust of Mumbai. The recently renovated and modernized 'Vinod Doshi Memorial Production Engineering Workshop', is equipped with machines like CNC lathes, Vertical Machining Centre, Co-ordinate Measuring Machine and Robots is now more in line with the industrial needs. An outreach project of MIT's Centre for Bits and Atoms (CBA), COEP's Fab Lab provides a significant fillip to technological empowerment; peer to peer project based technical training and high-tech business incubation. The centralized Mangesh Kale Robotics and Automation Laboratory as well as WIPRO-PARI Center for Advanced Manufacturing Technology of COEP Tech is a notable feature of the department supported by WIPRO-PARI private limited. The department has a state-of-the art Additive Manufacturing Lab which is developed with the support of Geometric Ltd. Pune.

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. The 5-year project in collaboration of IIT-Bombay and VNIT-Nagpur brings together four stakeholders: hospitals, engineering institutes, manufacturing industry, and Government bodies with a mission of creating new breakthroughs in low-cost medical device innovation through the integrated facilities for design, analysis, prototyping, and testing of low-cost medical devices. The team at the department is set out to revolutionize medical device design with indigenous R&D activities.

With the introduction of PG course in Project Management and the shift tending to Management of Systems, the department in 2020 was renamed as **'Department of Manufacturing Engineering and Industrial Management'**.

Department of Manufacturing Engineering and Industrial Management has embarked on a course of One-year full time Post Graduate Diploma course in **Enterprise Resource Planning (ERP)** along with SAP Certification from SAP Germany since the academic year 2013-1

### Vision & Mission

#### VISION

To be recognized as an innovative and distinguished center, a preferred provider of Production/Manufacturing Engineering students with interdisciplinary education, nurturing R&D, and Entrepreneur skills among students.

#### **MISSION**

- Foster, create and develop capacity amongst students to become future leaders in academia, government, industries, and entrepreneurial pursuit through a rigorous curriculum of theory and application that develops the ability to solve problems individually and in teams.
- To keep abreast with latest development in academics/industry and continuously upgrade the skill sets of all involved.
- Create knowledge of fundamental principles and innovative technologies through learning, teaching, and research in multi-disciplinary domains, focusing on project management, manufacturing, automation, and mechatronics.
- > To provide career guidance for higher education and to facilitate academics industry interaction.
- > To strengthen global collaboration and inculcate research aptitude amongst students and faculty.
- Strive continuously to pursue excellence in research while consciously meeting the expectations of the people it serves with a deep awareness of ethical responsibilities and human values.

#### **Our Strengths**

- > Excellent students. Excellent infrastructure.
- > Massive support from Top ranked Institutes, Industry, Alumni, and society.
- > State of the art laboratories.
- Experienced and qualified faculties.

#### **Research Areas**

We are strong in fundamental disciplines of Production Engineering and in various thematic areas namely, Production Process, Tool Engineering & Design, Industrial Engineering, Manufacturing Automation, Engineering Design and Analysis, Plant Engineering and Maintenance, Industrial Lubrication & Tribology, Mechatronics, Micro and Nano Engineering, Additive Manufacturing, Metrology and Quality Control amongst other subject areas.

We provide an impressive range of research at Production Engineering Department, much of it nationally acclaimed. We have a research ethos borne out by the Institutes interdisciplinary research activities. In the department, broad ranges of research activities are supported by excellent experimental and computing facilities. Recently (2015-16) department has filed eleven patents based on the work carried out by M. Tech, Ph.D. students and faculty members. The Laboratory facilities of the department have been improved with induction of new equipment's in Rapid Prototyping Lab and Terotechnology Lab.

#### Key research areas include: -

- Reliability Engineering
- Layout Optimization and Simulation
- Micro-machining
- Ergonomics and Biodynamics

- Manufacturing Automation
- Analysis for Design and Manufacturing
- Tribology
- 3D Printing

### Department Team:

SI.	Name of Faculty	Designation	Area of Specialization		
	Faculty of the Department				
01	Dr. S. S. Anasane	Head of the Department & Assistant Professor	Product Design, prototyping and Micromanufacturing		
02	Dr. B. Rajiv	Associate Professor	Reliability Engineering, Manufacturing Engineering Operations Research		
03	Dr. (Mrs.) A. V. Mulay	Associate Professor	CAD/CAM, Additive Manufacturing, Reverse Engg.		
04	Dr. M. D. Jaybhaye	Associate Professor	Reliability Engineering, Robotics, Manufacturing Automation		
05	Dr. B. U. Sonawane	Associate Professor	Tribology, Reliability Engineering, Material Forming		
06	Dr. S. M. Patil	Associate Professor	Manufacturing Automation Tribology, Hydraulics & Pneumatics		
07	Dr. P. D. Pantawane	Associate Professor	Manufacturing Engineering, Metrology Optimization		
08	Mr. S. U. Ghunage	Assistant Professor	Manufacturing Engineering, Design and Analysis, welding		
09	Dr. J. S. Karajagikar	Assistant Professor	Manufacturing Engineering, Industrial Engineering		
10	Mrs. T. A. Nair	Assistant Professor	ERP		
11	Dr. Ramsingh Yadav	Adjunct Faculty	Laser Welding, Laser forming		
		Suppo	ort Staff		
12	Ms. A. B. Londhe	Workshop Superintendent	CAD CAM		
13	Mr. S. N. Patil	Laboratory Manager	Additive Manufacturing, CAD CAM CAE, Reverse Engg.		
14	Mr. M. P. Langhi	Chargeman	Welding		
15	Mrs. P. S. Pawar	Clerk Cum Storekeeper	Storekeeper		
16	Mr.S.V.Rothe	Instructor	Moulder		
17	Mr. B. D. Rasage	Instructor	Sheet Metal		
18	Mr. S. S. Thombare	Instructor	Fitter		
19	Mr. B. N. Bhanuse	Instructor	Machinist		
20	Mrs. S. D. Neela	Laboratory Assistant	Office Upkeeping		
21	Mrs. A. P. Bochare	Laboratory Assistant	Digital fabrication & Prototyping		
22	Mr. N.M. Bhavari	Peon			
23	Mr. Laxman Bhosale	Peon			

### Academic Programmes

### Undergraduate Programme

Programme	Intake	Commenced	
B.Tech (Manufacturing Science and Engineering)*	75	2020	

Earlier B.Tech. (Production Engineering- Sandwich) from 1995-2019

#### Postgraduate Programme

Programme	Duration	Intake	Commenced
M.Tech (Manufacturing Engg. & Automation)	2 Yrs.	18	1994
M.Tech (Mechatronics)	2 Yrs.	18	2010
M.Tech (Project Management)	2 Yrs.	18	2012
M.Tech (Robotics and Artificial Intelligence)	2 Yrs.	18	2020

The department offers a postgraduate M.Tech program in Manufacturing Engineering and Automation, the first master's degree program of that specialization in the country. M.Tech degrees are offered in interdisciplinary and emerging technology specializations. The program M.Tech in Mechatronics commenced in the year 2010. The PG course in Project Management is started in 2013, which emphasizes the management aspect of industries. New PG course in Robotics and Artificial Intelligence was introduced from academic year 2020-21.

Our mission at the department is to foster, creating and developing capacity amongst students to compete ethically by providing platform for manufacturing inventions of world class standards. Our portfolio of faculty brings complimentary skill sets to bear on pressing national needs.

Our Ph.D. programs in Production Engineering and Industrial Engineering are helping define an emerging discipline on the national and international scene. We have a research ethos borne out by the institute's interdisciplinary research activities. In the department broad ranges of research activities are supported by excellent experimental and computing facilities. The Department's research efforts are having a significant impact on our society as well as the scientific community.

#### Programme Commenced Duration Intake PGD-ERP 75 1 Yr. 2013 PGD-Additive Manufacturing 1 Yr. 20 2016 1 Yr. 30 2020 PGD- Integrated Product Design & Development

### Post Graduate Diploma Program

Due to increasing trend towards flexibility in manufacturing and wide use of Information Technology to integrate various main and supportive systems of production, there is a need today to specialize in one of the important areas as Enterprise Resource Planning. To the portfolio of courses already offered: Department has embarked on one year post graduate diploma course in the field of Enterprise Resource Planning (ERP) for the students who want to learn more about the ERP architecture and customization procedures and its potential. The tri-semester course provides: Induction, Hands-off training, Hands-on training, Demonstration, Certification.

### **Industry Connect**

### MoU's Signed

SI.	Signed with	Date of the MOU
1	Central Manufacturing Technology Institute (CMTI), Bangalore	11 <sup>th</sup> March 2015
2	Geometric Ltd.	16 <sup>th</sup> October 2015
3	Tata Technologies Limited and Foundation for Innovation and Social Entrepreneurship (FISE)	13 <sup>th</sup> May 2016
4	3DPLM Software Solutions Ltd	4 <sup>th</sup> July 2016
5	Vidya Pratishthan's K. B. Institute of Engineering and Technology, Baramati	5 <sup>th</sup> August 2020
6	SLM Solution Germany, Design Tech System Pvt. Ltd. & COEP's Bhau Institute of Innovation Entrepreneurship and Leadership	28 <sup>th</sup> September 2020
7	Coretech System Co., Ltd.	14 <sup>th</sup> January 2021
8	Wipro PARI	2 <sup>nd</sup> February 2022
9	KSPG Automotive India Pvt. Ltd.	28 <sup>th</sup> April 2022
10	Hirschvogel Component India	15 <sup>th</sup> Sept 22

### • Industry Advisory Board

Department has eminent personalities from industry and academia. The Industry Advisory Board (IAB) is a select group of representatives from industry, who under your esteemed Chairmanship will provide guidance on academic issues, current trends, and future directions.



IAB serve to provide direct linkage and communication between the department and the industry. Board members serve as ambassadors for the Department externally and are integral to forging alliances between the Department and Industry. The mission of the Industry Advisory Board (IAB) of the Department is to guide and support the future of the Department in accomplishments of its Vision and Mission.

### Major Research Projects:

- 1. **BETIC** (2014-2022): Established in collaboration with IIT Bombay and VNIT Nagpur in 2014 to develop low cost medical devices. BETIC COEP team curated nearly 50 unmet clinical needs from various hospitals. Total 14 patent are filed and 4 patent are being awarded. 4 products have been licensed to industry and successfully tested in hospitals.
- 3D Make Lab (2014-2018): It is collaborative project sponsored by Geometric Ltd. Mumbai in 2014. It is Concept to creation (C2C) is a public-access facility for 3D printing, and related technology. It provides rich expertise and education in these powerful new 3D tools. It also enables students and companies to use the lab to build their creative concepts, R&D.
- 3. **Smart Foundry** (2016-2021): It is multi-institutional Project funded by DST. In this project, a process being developed for automated, cost-effective foundry based on SMART and IoT based technologies.
- 4. **DIC** (2018-2022): collaborative project with IDC IIT Bombay under MHRD. This project deals with interdisciplinary aspects of design innovation. Till date DIC, COEP delivered over 8 different projects from different streams of Engineering, from which 2 patents are filed.

### Infrastructure:

Department has 16 well-equipped state of arts advanced Research Laboratories to cater the needs of undergraduate students, graduate students, and research scholars.

Sr. No.	Name of the Laboratory	Name of the Important equipment	Coordinators	
01 Rapid Prototyping Laboratory- 3D Make Lab (BETiC)		<ol> <li>SLM 280-Metal 3D Printer</li> <li>Fortus 450 FDM</li> <li>F170 FDM 3D Printer</li> <li>Stratasys Connex 350</li> <li>FDM 3D Printer</li> <li>RAP FAB FDM IOT based 3D Printer.</li> <li>FDM Hybrid 3D Printer</li> <li>Laser SLS Metal AM Setup</li> <li>Form Lab SLA</li> <li>Solidscape Wax Printer</li> <li>DLP 3D Printer</li> <li>Artech Spider 3D scanner</li> <li>3D Scanner David SLS</li> <li>Laser Head for AM Machine SLS</li> <li>Vision Capturing &amp; Measuring System Rapid-I</li> <li>HP Workstation Z238</li> </ol>	1. Dr.(Mrs.) Arati Mulay 2. Mr. S. N. Patil	
02	Rapid Prototyping Laboratory- Post Processing Section	<ol> <li>Form Lab Curing Station &amp; Washing Station</li> <li>Solidscape Wax Support Removal Set up</li> <li>Vapor Polishing Setup</li> <li>Agitation Tank</li> <li>Water Jet soluble support removal</li> <li>Pressure Pot</li> <li>Tumbler Setup</li> </ol>		
03	FAB Laboratory	<ol> <li>CNC Router</li> <li>Epilog Laser Cutter</li> <li>Laser Engraving &amp; Cutting Machine</li> <li>3D printer flash forge guider 2</li> <li>Cordless Impact Drill Machine</li> <li>Instek Function generator</li> <li>Modela mini mill machine</li> <li>Advanced electronic work bench</li> <li>Snapmaker 2.0</li> </ol>	1. Dr S. S. Anasane 2. Mrs. A. P. Bochare	
04	Micro- Manufacturing Laboratory (Research Laboratory)	<ol> <li>Hybrid Micro EDM</li> <li>Bioprinter</li> <li>POP Plating Process</li> <li>Dynamic Mechanical Analyzer</li> <li>Auto Cast XI, E foundry, Melt IT labware</li> <li>ECM</li> </ol>	1. Dr. B. Rajiv 2. Dr.S.S. Anasane	
05	Machine Tool Laboratory	<ol> <li>EDM Drill M/C</li> <li>CNC 3D Milling/ Engraving machine</li> <li>25T Hydraulic Press</li> <li>PVM 40 VMC machine</li> <li>CNC lathe machine</li> </ol>	1. Dr. B. Rajiv 2. Dr. B.U.Sonawane	
06	Non-conventional Laboratory	<ol> <li>EDM</li> <li>Electrospinning apparatus</li> </ol>	1. Dr. B. Rajiv 2. Dr.J.S. Karajagikar	

Sr. No.	Name of the Name of the Important equipment Laboratory		Coordinators	
07 Metrology Laboratory		<ol> <li>Slip gauge set.</li> <li>Surface roughness tester sj410- sj20ip</li> <li>Laser interferometer</li> <li>Profile projector v-12a</li> <li>Dynamometer 9257b (Kistler)</li> <li>Rigid optical table</li> <li>Autocollimator with accessories</li> </ol>	1. Dr. P. D. Pantawane 2. Prof.S.U.Ghunage	
		<ol> <li>8. Micro hardness tester</li> <li>9. Atomic force microscope</li> <li>10. 2D measurement system</li> <li>11. Hexagon Articulated arm.</li> <li>12. CMM coordinate measuring machine</li> </ol>		
08	Robotics & Automation Laboratory	<ol> <li>Sg 5/6 - ut robotic arm</li> <li>Robot industrial arm</li> <li>Motoman SV 3X plus X RC Controller</li> <li>Scorbot ER VII</li> <li>Humanoid Robot</li> <li>Collaborative Robot</li> <li>Axis Robotic Arm</li> </ol>	1. Dr. S. S. Ohal 2. Dr. M.D. Jaybhaye	
09	Terotechnology Laboratory	rotechnology 1. Atomic Absorption Spectrophotometer		
10	Mechatronics1. PLC based Lift Simulator ModelLaboratory2. PC-PID Based Multi- Process Control system.3. PLC based Bottle Filling Plant		1. Dr. S. M. Patil	
11	CAD/CAM Laboratory Computer Lab I	1. CAM Lab Simulation Software 2. AUTODESK Inventor, ABACUS 3. Magic RP	1. Dr.(Mrs.) Arati Mulay 2. Mr. S. N. Patil	
12	Computer Lab II       1. H-Simulator & P Simulator (Festo Fluid Sim)         2. Automation Studio		1. Dr. S. M. Patil	
13	Computer Lab III (AI & Robotics)	1. ROS 2. Matlab 3. Robo Analyzer (Free Version)	1. Dr. M. D. Jaybhaye	
14	Computer Lab IV (PG) 1. ProModel 2. Witness 3. Rhino 7 and Rhino E		1. Dr. J.S. Karasgikar	
15 16	Computer Lab V ERP Laboratory			
17	Central Workshop	1. Welding	1. Mrs. A. B. Londhe	
	2. Fitting		0 3	
	2 0 3 5	3. Carpentry	gurs for	
	R. S.	4. Molding	2. 5.0	
	MALL N	5. Forging/Smithy shop		
	<b>1</b>	6. Turning		
		7. Machining	5	
		8. Electrician		
		9. Plumbing		

### Glimpse of Lab Facilities:

### Workshop (Central Facility):

The Workshop for the institute is an integral part of the Production Engineering Department. The workshop provides to enhance the skill sets of the undergraduate students in basic trades such as carpentry, fitting, sheet metal working, soldering/brazing and machining etc. Workshop plays a vital role in developing skills, knowledge, creativity, enthusiasm in budding engineers. Workshop extends itself for fabrication of projects and establishment of experimental setups and lends support to research activities.



### FAB Lab(Central Facility):

The COEP FAB LAB established in August 2009 in association with center for Bits and Atoms, MIT, USA is fully equipped with cutting edge digital fabrication facilities such as computer-controlled laser

cutter, for press-fit assembly of 3D structures from 2D parts, larger CNC wood router for making bigger 2D & 3D parts, a vinyl cutter to produce printing masks, flexible circuits and antennas, desktop precision (micron resolution) CNC milling machine to make three-dimensional moulds and surface-mount circuit boards. The lab also provides excellent facilities of various programming tools for low-cost high-speed embedded processors, PCB assembly, programming, and testing with an array of microcontrollers and microprocessors.











### **Robotics and Automation Lab (Central Facility):**



### 3D Make Lab - Rapid Prototyping Facility (Central Facility):

The Rapid Prototyping Laboratory has facilities for making physical objects directly from CAD models. The FDM (RP) machine is available for experimentation and product development for UG and PG students.



**Metrology Lab:** 



Non-conventional Machining Lab:







#### Machine tools Lab:

Machine Tools are grouped into production units, which are capable of performing all necessary operations on a certain group of workpieces. The department is equipped with 10 CNC Lathes and 2 CNC Milling Machines and a 3 axis CNC machining centre CNC engraving machine. In addition to this Machine tools lab has conventional Lathes, Milling Machines, Drillings Machines, Gridding Machines, Shaper, Planer etc.



#### **Terotechnology Lab:**



### Bio Medical Engineering & Technology (Incubation) center



### **Mechatronics Lab**





### Computer Lab I (CAD CAM CAE Lab)



### **Computer Lab II (Automation Lab)**



### Enterprise Resource Planning (ERP) Lab



### **Student Activities**

Students participate in various inter collegiate, inter University, national Level & local tournaments. College has excellent ground facilities for cricket, basketball, volleyball, badminton, tennis, table tennis, athletics, etc. College has produced state and national level players in badminton, cricket and chess. COEP teams are known for their team spirit and commands healthy respect from other teams. We also conduct inter engineering sports meet "ZEST".

Various fests are held in COEP around the year. These relate to curricular, co-curricular and cultural activities. They can range from dancing, debating, technical paper presentations and quizzing to robotics, rowing and contraptions. These activities are often organized by one of the student bodies, clubs or departments. They are usually supported by the industry and are totally managed internally by the students themselves.





SYMPOSIUM 2022

**Industrial Visits** 



### **Co-Curricular Activities:**







**ÉCELL** 







Workshops and Seminars:

RATEURIUM



### Placements UG Placement from last 10 years:

Year	Placement		Higher	
	No of	%	studies	
	Students	70		
2011-12	58/63	92.06	5	
2012-13	48/58	82.76	9	
2013-14	52/64	81.25	10	
2014-15	51/65	78.46	13	
2015-16	59/70	84.29	15	
2016-17	55/70	78.57	4	
2017-18	62/71	87.32	3	
2018-19	51/67	76.12	4	
2019-20	54/72	75.00	5	
2020-21	59/70	84.29	6	
2021-22	60/67	85.71	7	
2022-23	40/69	Ongoin	g Batch	



### **Companies for Placements:**

- KSPG AUTOMOTIVE INDIA PVT. LTD •
- TATA MOTORS
- TATA TECHNOLOGIES
- PHILIPS
- DELOITTE
- CITI CORPORATION
- ZS ASSOCIATES
- HIRSCHVOGEL COMPONENTS
- ALIGNED AUTOMATION
- ENPRO LTD
- KIRLOSKAR BROTHER LTD
- SIEMENS LIMITED
- CATERPILLAR
- MINDA INDUSTRIES
- DASSAULT SYSTEMS
- SANY HEAVY IND

- GODREJ
- JOHNSON AND JOHNSON
- GREAVES COTTON
- CAPGEMINI
- SCHLUMBERGER
- ACG WORLDWIDE
- VARROC ENGINEERING
- FEDERAL MOGUL
- ABB LIMITED
- ADOR WELDING
- DRESSER RAND
- MAGNA AUTOMOTIVE
- MAHINDRA LOGISTICS
- MARUTI SUZUKI
- CROMPTON GREAVES
  - HYUNDAI CONSTRUCTION

- DIVGI TORQTRANSFER
   SYSTEMS
- MERCEDES-BENZ INDIA
- SCHNEIDER ELECTRIC
- SCHAEFFLER INDIA
- GABRIEL INDIA
- FORBES MARSHALL
- FREUDENBERG
   FILTRATION
   TECHNOLOGIES
- LARSEN & TOUBRO
- ATLAS COPCO
- MUBEA AUTOMOTIVE
- YAZAKI INDIA PRIVATE
   LIMITED

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# ENGINEERING INDUSTRIAL FINISHED GOODS Processes

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