



## Department Facilities

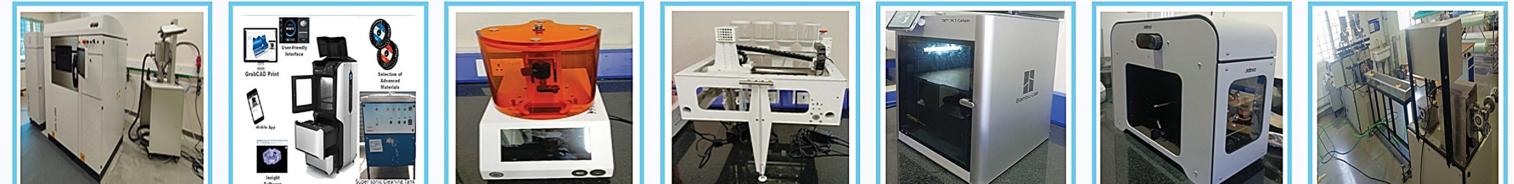
### Manufacturing



Wire EDM      CNC Milling Machine (DMG Mori ) (3 Axis)      CNC Lathe      Micro-Machining Center      Wire Arc Additive Manufacturing      Robotic Gas Metal Arc Welding Process      Gas Tungsten Arc Welding Process



Bottom Pouring Stir Casting Machine      Vacuum Induction Furnace      Laser Micromachining Center      High Temperature Vacuum Hot Press      Twin Roller Sampling System      Planetary Ball Mill      Two Roll Polymer Mixing



Metal 3D Printer (EOS M290)      Polymer 3D Printer (Stratasys)      3D Bio Printer      3D Metal Foam Printer (Luminx+)      Bench Top FDM Printer      Single Screw Extruder      Conical Twin Screw Extruder



Abrasive Flow Finishing      Plasma Polishing      Drag Finishing      Dry Electro Finishing      Magnetic Polishing      5-Axis Abrasive Polishing Station



Coordinate Measuring Machine      Surface Roughness Tester      Digital Height Gauge      3D Profilometer (Bruker)      Surface Roughness & Contour Tester      Form Tester      Residual Stress Analyser



3D Scanner (Zeiss)      Stereo Microscope      Metallurgical Microscope      Rheometer (MCR 302E Anton Paar)      Universal Tribometer      Micro Hardness Tester      Cutting Force Dynamometer

## Department Facilities

### Fluids & Thermal Engineering



PCT Pro      Solid Gas Adsorption Characteriation Set Ups      Ball Mill      Hydrogen Storage and Related Facilities      Golve Box      Particle Image Velocimetry      High Speed Imaging Systems



Bomb Calorimeter      Schlieren Imaging Setup      Rheometer      Laser Doppler Velocimeter      Composite Manufacturing Facility      4 Cluster Porous Radiant Burners      7 Cluster Porous Radiant Burners

### Solid Mechanics & Robotics



100 kN Fatigue Universal Testing Machine      50 kN Universal Testing Machine      100 kN Creep Fatigue Universal Testing Machine      Rockwell Hardness Tester      Free Field Microphone & Pistonphone Calibrator      Force sensors      Accelerometer



Doosan 1013 Cobot      Propeller Test Bench      Data Acquisition System      Calibration Shaker      Brake Dynamics Test Bench      Contact Mechanics of a Flexible Mechanism      Modal Shaker

### Simulation Software



### Institute Level Facilities

#### Centre of Excellence in Smart Manufacturing and EV Technologies

NX CAD, CAM & CAE, NX Additive Manufacturing, NX Fibersim  
Tecnomatix - Process and Plant Simulation  
Teamcenter  
Simcenter 3D & Amesim, Simcenter SCADAS  
Mind Sphere, Mendix - Pro & Cloud Resource  
Opcenter APS and Execution Bundle, STAR CCM +  
ADAS Simulation Software, ADAS Testing Hardware  
ADAS Sensors & Camera  
TIA Portal, S7-1500 PLC with HMI

