

Prayas Center Name MaDeIT Innovation Foundation

City Chennai

State Tamil Nadu

Fab lab Page Link <http://www.madeit.iiitdm.ac.in/home/fablab>

Equipment available at MaDeIT Innovation Foundation DST PRAYAS Shala

Section		Prototyping Facility
Sr. No.	Equipment Name	Equipment detail
1	3D Printer	<p>Brand: Olivetti Model: 3D Olivetti S2 Specification: Build volume: 400x400x400 mm, Minimum layer thickness: 0.05 mm, Maximum extruder temperature: 285 °C, Maximum heatbed temperature: 120 °C, Filament diameter: 1.75 mm, File supported - *.stl, Software support – CURA, Print Technology – FFF. Operational area – Manufacturing & Engineering, Healthcare, Construction, Art, Research. User Manual: https://www.olivetti.com/system/files_force/products/manuals/user_manual_-_olivetti_3d_s2.pdf?download=1&download=1</p>
2	PCB & Antenna prototyping machine	<p>Brand: MITS Model: Eleven Lab Specifications: Working are: 229x320 mm; Spindle speed: 41,000 rpm; Single step tool change; Camera monitoring system. Software: Design Pro and Design View Supported files: Gerber and DXF User Manual: http://www.mitspcb.com/support/mdp_11lab_en.pdf</p>

Section		Electronics
Sr. No.	Equipment Name	Equipment detail
3	Digital signal Oscilloscope	<p>Brand: Rigol Model: MSO5000 Specification - Analog bandwidth: 70 MHz; Bandwidth Analog channel + Digital channel - 2+16; Max. Sample rate: 8 GSa/s; Waveform capture rate: 500,000 wfms/s; LCD: 9" capacitive multi-touch screen. Serial Protocol analysis: RS232/UART. I2C, SPI, CAN, LIN, FlexRay, I2S and MIL-STD-1553; Connectivity: standard - USB, LAN, HDMI; Built-in Hardware counter - 6, Digital Voltmeter - Standard. Digit frequency counter + totalizer. User Manual: https://www.butterfly.com/PDF/RIGOL/mso5000/MSO5000_UserGuide_EN.pdf</p>

4	Function/Arbitrary waveform Generator	<p>Brand: Scientific Model: SMG2042 Specification - Maximum output frequency: 40 MHz; Output channels: 2; Sampling rate: 1.2 GSa/s (4x interpolation), Arbitrary waveform Length: 8 Mpts, Frequency Resolution: 1μHz, Vertical Resolution: 16 bits; Waveform: Sine, Square, Ramp, Pulse, Gaussian Noise; Resolution 1 μHz; Initial accuracy: 1 ppm. User Manual: https://drive.google.com/file/d/1rFaeqGTOGbm9_6C8QJgHDwKpqTlhMy7b/view?usp=sharing</p>
5	Thermal Camera	<p>Brand: FLIR Model: TG267 Specification - IR Resolution: 160x120 pixels; Digital image enhancement: yes; Thermal sensitivity/NETD: 70 mK; Field of view (FOV): 57" x 44"; Minimum focus distance: 0.3 m; Distance to spot ratio: 24:1; Image frequency: 8.7 Hz; Focus fixed focal plane array/spectral range; Display resolution - 320x240 pixels Screen size: 2.4 in. User Manual: https://flir.netx.net/file/asset/21947/original/attachment</p>
6	Soldering station	<p>Brand: Soldron Model: SL938 Specification: Temperature range: 200 °C - 480 °C.</p>
7	Universal microcontroller programmer	<p>Model: JTAG: USB ML Universal Programmer, PICKIT 3, PICKIT 4, ST LINK, FTDI Debuggers</p>
8	Arduino supportive sensor kit	<p>37 in one sensor kit (10 Nos)</p>
9	RLC Meter	<p>Brand: Metravi Model: LCR-360</p>
10	2D Plotter	<p>Brand: Shopmarkerq Type: CNC 2D plotter</p>
11	Automation Kit & Drive for shearing machine	<p>Brand: Siemens Model: 1214C Specification: Kinco GL100 HMI with ethernet and COM Port, Power supply: 5A, Double acting Solenoid value, 1kW Servo drive</p>
12	Electron Beam and Thermal Evaporation Coating Machine	<p>Brand: V.R. Technologies Specification: Thermal Evaporation systems have been used in large numbers for industrial and laboratory applications, such as preparation of thin films for optical and electronic device applications, preparations of specimens for Electron Microscope, etc. The basic unit consists of a cabinet containing a vacuum pumping system together with all the electrical components necessary for the coating process. Operating Manual: https://drive.google.com/file/d/1vjhrUnN76NmM1sr4Q0jenXhIh9FpmMRJ/view?usp=sharing</p>
13	Multiple Power Supply	<p>Brand: Scientific Model: PSD3304 Specification: DC 0 to 30V/2A ,0 to +/-15V /1A Tracking, 4.5 to 5.5 /5A, Digital Display for voltage and current, Protection against overload and short circuit, Adjustable current limiter, Constant current & constant voltage</p>
14	Label Printer	<p>Brand: Brother Model: PT-D210 SIZE: 6MM,9MM,12MM</p>

15	Mokugo M2	Brand: MokuGo Model: M2 Specification: Arbitrary Waveform Generator, Data Logger, Digital Filter Box, Frequency Response Analyzer, FIR Filter Builder, Logic Analyzer / Pattern Generator, Oscilloscope / Voltmeter, PID Controller, Spectrum Analyzer, Waveform Generator, Lock-in Amplifier* (add-on option)
16	Electro Chemical Analyzer	Brand: Admiral Model: Squidstat Plus Specification: EIS Frequency Range: Up to 1 MHz Max Current: ±1 A Best Current Accuracy: 100 pA Voltage Scan Range: ±10 V Channels Per Unit: 1 Operating Modes Potentiostat, Galvanostat, ZRA, FRA Cell Connections 2, 3, 4, of 5 electrodes or more ADC/DAC Resolution 16 bit resolution Slew Rate (No Load) 5 MV/s Maximum Sampling Speed 100,000 samples/s Floating and/or Earth-grounding Both (switchable) Input Impedance >10 Tera-ohm (typical) Input Bias Current <1 pA (typical) Data Backup Memory (Onboard) 16 GB Dimensions 24 cm x 17 cm x 6 cm
17	Ultrasonic Cleaner	Brand: S Clean Model: M-4.5 US Specification: Tank size 300 x 150 x 100 mm (l x w x h) Total Solvent Capacity 4.5 Ltrs. Approx. 33 OR 40 khz ± 3 Khz.

Section		
Metalworking Facility		
Sr. No.	Equipment Name	Equipment detail
18	Laser Cutting Machine	Brand - Han's Yueming Laser Model - CMA1309-B-A Specification - Working area: 1300x900 mm, Laser type: CO2 laser generator. Working speed - 0~500 mm/s. Supported format - AI, DXF, BMP, JPGE, PLT, DST, DSB, etc. Materials -Fabrics, Leather, wool and other non-metallic flexible materials. User manual: http://www.yueminglaser.com/YMlaserfiles/YMfiles/Cutting/CMA/en/HL_Machine_Manual.pdf
19	Acrylic Bending machine	Brand – Aecfun Model - ABM1300 Specification - Applicable length: ≤1250mm, Applicable thickness: 1-10 mm, Input Voltage: 110V/220V, Working Power: 1500W, Temperature range: ≤600°C Materials -Acrylic, organic glass, plexiglass, PVC, PC, ABS, PP sheet. User manual: https://www.aecfun.com/acrylic-bending-machine-abm700-1300.htm
20	Spot welding machine	Brand: SMD Spot Weld Model - SPP 35. Specification - KVA: 35, Input Volt: 415V, 2 Phase Max Iron and Steel. Welding thickness: 0.3 to 2 mmx 2, Throat depth: 150 mm (50 dia brass road),

		<p>Electrode Holder: 25dia x 170 mm top & Bottom with cooling provision, Throat Gap: 9.5 inch.</p> <p>Cooling Method: Water cooling without pump.</p> <p>Control type: SMD Microprocessor Controller.</p> <p>Materials: MS, SS.</p> <p>User manual: https://www.craigmoreonline.co.uk/amfilerating/file/download/file_id/185/</p>
21	Mitre Saw	<p>Brand: Makita</p> <p>Model: LS1040</p> <p>Specification: Pivoting Fence for Supporting Larger Material, Powerful 1,650 W direct drive motor for improved performance; 4,600 RPM, Dual post compound pivoting arm, Miter cuts 0°-45° left and 0°-52° right, Positive miter stops at 9 settings: 15°, 22.5°, 30°, 45°, right or left and 0° (90° cuts), Bevel cuts up to 45° to the left.</p> <p>Material: Metal, Wood etc.</p>
22	Scroll Saw	<p>Brand: Makita</p> <p>Model: SJ401</p> <p>Specification: Thickness of cut: 50 mm, Throat: 406 mm, Length of stroke: 18 mm, Strokes per minute: 400-1600, Overall length: 600 mm, Net weight: 14 kg.</p> <p>Material: Metal, Wood etc.</p>
23	Mechanical shearing machine	<p>Brand: Paras Engineering Co.</p> <p>Model: JPSM 610x4 mm</p> <p>Specification: Under crank type, Guillotine shearing, Work area: 610 mm, Stroke per minute: 45, Cutting capacity: 600 x 4 mm, Blade: 610 x 63 x 14 mm, Main motor: 3 HP.</p> <p>Materials: SS and MS.</p>

Section	Power tools	
Sr. No.	Equipment Name	Equipment detail
24	Vacuum cleaner	Brand - Eureka Forbes
25	Compressor	Brand: Pryes
26	Spray painter	Brand: Ingco spray gun
27	Chop Saw machine	Brand: Bosch

Section	Hand tools	
28	Bosch Hand tool kits	
29	Bosch GSB Plastic 550 W Corded Electric Mechanic Kit	

Section	Measuring Instruments	
30	FLUKE/TRUE RMS Multimeter SKU: 115	Brand: Fluke Model: SKU115
31	FLUKE/ Digital Clamp meter SKU: 305	Brand: Fluke Model: SKU305
32	Tachometer	Brand: Metravi Model: NCTM-1000
33	Vibration tester	Brand: HTC Instruments Model: VB-8205

34	Digital Force Gauge	Brand: AERMANDA Model: HF-200
35	Digital LCR Meter	Brand: Metravi Model: LCR-360
36	Psychrometer	Brand: Extech Model: RH350
37	Temperature & Humidity Data logger	Brand: HTC Instruments Model: 20190303515
38	Sound Level Meter	Brand: Extech Model: 407730
39	Light Meter	Brand: Extech Model: 401027