



PRECISION ENGINEERING AND TECHNOLOGY CENTRE

(Govt of Tamil Nadu Precision Manufacturing Mega Cluster Scheme)

Registered under Section 8 Companies act, CIN: U73200TN2022NPLI49484

PRESENTATION

Disclaimer: General Information for public.

ABOUT TIEMA



- TIEMA (Thirumudivakkam Industrial Estate Manufacturers Association) is established in the year 2001 to symbolize the curiosity of industrial units of SIDCO Industrial Estate, Thirumudivakkam.
- TIEMA is also a part of Chennai Auto Ancillary Industrial Infrastructure upgradation Company (CAAIUC).
- This Industrial Estate areas over 200 acres with more than 366 active Tiny, Small and Medium Scale Units.
- This association communicates with the State & Central Government, Statutory Bodies, Financial Institutions, other similar associations and works for the business promotion of its members.

ABOUT SIDCO THIRUMUDIVAKKAM

Main Ind. Estate :	203.02 Acres	Total no of units:	366 Units
Micro Ind. Estate:	5.26 Acres	Total no of units:	44 units
Women Ind. Estate:	11.48 Acres	Total no of units:	49 units
Phase II Ind. Estate:	22.24 Acres	Total no of units:	97 units
Total	242 Acres		556 units

Private Estate around SIDCO: **more than 600 units (Micro Industries)**

INDUSTRY CLASSIFICATION:



- **Auto Components Manufacturing unit**
 - Sheet Metal Fabrication units
 - Plastic Injection Molds & Components mfg.
 - Aluminum Die Casting Mould and Components Manufacturing
 - Electroplating, Chemical, Paint and related product units
- **Electrical & Electronic Hardware's Manufacturing**
- **SPM Machine Builder**
- **Medical Device Manufacturer & Pharmaceutical Unit**
- **Leather and Leather products**
- **Food Processing Units**



Precision Engineering and Technology Centre

(Previously Known as Chennai Incubation Tech Centre)
Govt of Tamil Nadu Precision Manufacturing Mega Cluster Project

INCREASING COMPETITIVENESS OF MSME'S



About PETC:



The Precision Engineering and Technology Centre, a TIEMA initiative supported by the Government of Tamil Nadu, operates under the Precision Manufacturing Mega Cluster scheme, empowering MSMEs in innovation and product development. Established on a 'Hub and Spoke' model, the central hub resides at Thirumudivakkam Industrial Estate, with spokes extending to Irungattukottai SIPCOT and other necessary locations.

It offers vital facilities catering to MSMEs, fostering their growth and development. This initiative aims to enhance competitiveness, encourage innovation, and bolster the precision engineering sector, thereby contributing significantly to the economic landscape of Tamil Nadu and beyond.

Facilities at PETC :

1. Design Software Support (Sheet Metal/Casting/Mould etc.)
 - Product Design Analysis & Simulation testing.
 - Flow analysis and Computer Aided Manufacturing Support.
2. Industrial Grade Additive Manufacturing (3D Metal and Polymer Printing)
3. Re-Engineering Lab (3D Scanner & reverse engineering software)
4. Product Testing Centre (Plastics, Metal and Rubber, CMM) with NABL Accreditation
5. Precision Manufacturing (5 Axis VMC, CNC Lathe, High-Speed Machines & Laser Cutting)
6. Industry ready - Training Centre (CAD/CAM & Additive Manufacturing)
7. Industry-Institution-Interaction Centre.
8. Facilitating Patent and Trademark registration.

Project Cost & Government Order



ABSTRACT

Tamil Nadu Small Industries Development Corporation Limited (TANSIDCO) – Schemes - Hon'ble Minister for Finance and Human Resources Management Announcement in the Budget Speech for the year 2021-2022 - Establishment of Mega Cluster in Precision manufacturing under Mega Cluster Scheme at Thirumudivakkam, Chennai with a project cost of Rs.4761.58 lakh – Release of 1st instalment of Rs. 13,33,20,000/- (Rupees Thirteen crore thirty three lakh and twenty thousand only) - Orders Issued.

MICRO, SMALL AND MEDIUM ENTERPRISES (C) DEPARTMENT

G.O.(Ms.) No.53

Dated: 20.07.2022

சபகிருது வருடம் ஆடி 4

திருவள்ளூர் ஆண்டு 2053

Read:

1. Announcement made by the Hon'ble Minister for Finance and HRM on the floor of the Assembly on 13.08.2021.
2. From Managing Director, TANSIDCO Letter Rc. No.539/S2/2021, dated 12.04.2022 and 30.06.2022.

ORDER:

During the Budget Speech 2021-2022, the Hon'ble Minister for Finance and Human Resources Management has made an announcement as follows:-

"Five Mega Clusters in Pharmaceutical, Petro Chemicals, Precision Manufacturing, Defence and Aerospace and Smart Mobility sectors will be established at a cost of Rs.100 crore each".

2. In the reference second read above, the Managing Director, Tamil Nadu Small Industries Development Corporation Limited (TANSIDCO) has submitted a proposal as follows:-

The proposed Precision Manufacturing Mega Cluster project is to be developed in hub and spoke model where hub consists of Common Facility Centre (CFC) at TANSIDCO, Thirumudivakkam and spoke consists of the Testing centre at State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT), Irungattukottai. A Common Facility Centre (CFC) is a pool of high- end and capital-intensive facilities, which offers state-of- the-art machinery / equipment and services at affordable rates, especially beneficial to the Micro, Small and Medium Enterprises (MSME) sector.

TANSIDCO took various measures in identifying the location, Technology etc., in consultation with the stakeholders and entrusted the preparation of Detail Project Report (DPR) with M/s. Industrial and Technical Consultancy Organization of Tamilnadu Limited (ITCOT). M/s ITCOT, after a thorough study of the cluster in the field

Ensuring that the services of the facilities created under the scheme are extended to maximum number of existing and potential enterprises.

The breakup of Project Cost is as follows:-

Sl.No	Components	Cost (₹inlakhs)
1	Building and civil works	204.33
2	Plant and Equipment	3516.74
3	Computers and Accessories	131.56
4	Software	631.51
5	Contingencies@ 5.00%	224.21
6	Pre-operative expenses	20.00
7	Interest During Construction	33.23
	Total Project Cost	4761.58



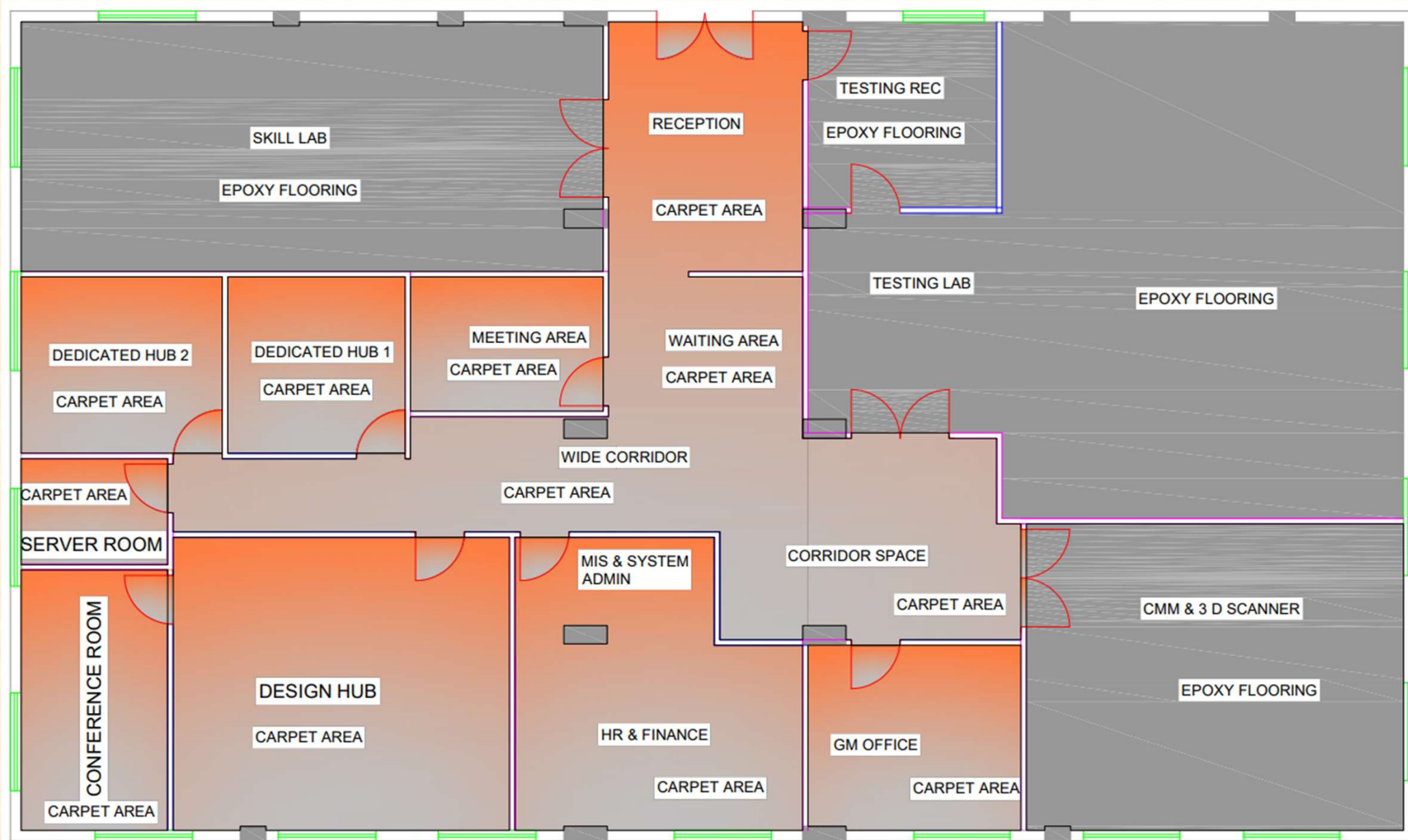
Means of Finance:-

The project is proposed to be financed as under:

Particulars	percentage	₹ in lakhs
GoTN Grant	70%	3333.10
Equity contribution by SPV	10%	476.16
Term Loan by SPV	20%	952.32
Total	100%	4761.58

PETC GO.pdf

PETC Layout



First Floor

Design Work

Post Printing

Wire Cut

Plastic 3D printer

Metal 3D printer

Ground Floor

1. Design & Analysis Centre Layout



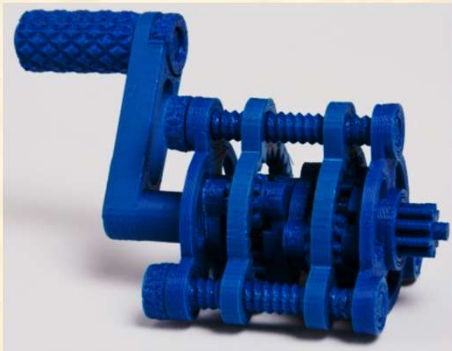
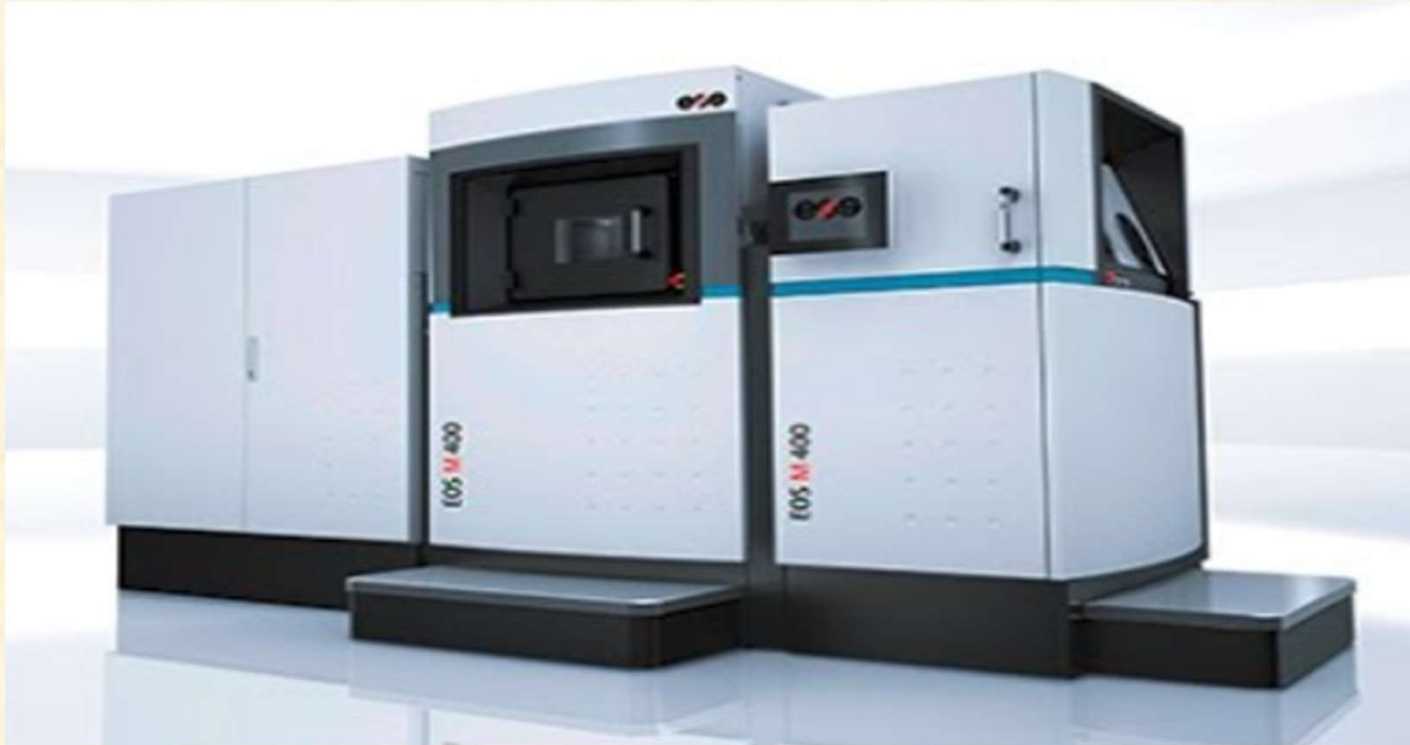
- Product Design (Floating)
- Product Design (Floating)
- Mold Design (Floating)
- Progressive Design (Floating)
- Easy Fill Analysis (Advanced) add in
- Total Machining (CAM)
- Sheet Metal Designer
- Mechanical & Shape Designer
- Reverse Engineering
- Mold & Tooling Designer+ Plastic Injection Engineer
- Stamping Die Designer
- Function Driven Generative Designer

2. Re-Engineering Lab

AICON Smart Scan 12 MP Optical Blue Light Scanner with
FOV SL 500



3. Additive Manufacturing – Metal and Plastic 3D Printing



3a. Additive Manufacturing – Metal and Plastic 3D Printing

EOS M 290



► Proven DMLS quality
with enhanced quality
management

Build volume (x, y, z):
250 x 250 x 325* mm

Laser: 400 W Yb-fiber laser,
focus diameter 100 µm

MEDIUM FRAME

M290

Yb-fiber laser; 400 W

250 x 250 x 325 mm

20 - 60 µm

Hard & Soft recoater

Nitrogen or Argon

Powder Particle 10 – 60 µm

EOS Stainless Steel GP1

EOS Stainless Steel PH1

EOS Case Hardening Steel

EOS Nickel Alloy IN718

EOS Nickel Alloy IN625

EOS Nickel Alloy HX

EOS Cobalt Chrome MP1

EOS Cobalt Chrome SP2

EOS Titanium Ti64

EOS Aluminium AlSi10Mg

EOS Copper Cu

EOSPRINT, EOSCONNECT,

EOSTATE, EOSYSTEM

- Surface finish
- Sand Blasting/Shot peening
- Conventional Manufacturing
- Heat treatment process

3b. Additive Manufacturing – Metal and Plastic 3D Printing

EOS P 396: Productive mid-volume polymer laser sintering system



Usable build size :

- Width 340 mm
- Depth 340 mm
- Height 600 mm
- Max. volume: 69.4l per build

Main properties :

- The “workhorse” in the mid-volume segment
- High mechanical homogeneity across full build volume thanks to EOSAME feature



4. Testing Facility : Metal, Plastics and Rubber

- Optical Emission Spectrometer
- Metallurgical microscope
- Universal Testing Machine
- Hardness, Brinell Hardness, Rockwell A, B, C scales
- Hardness, Macro Vickers and Micro Vickers Hardness
- Rubber Tensile tester
- Muffle Furnace
- Abrasive cutter, mould preparation, polishing machine
- FIE Charpy Impact tester
- Four Digit electronic Chemical balance
- Charpy notch cutter, Dumbbell cutter
- Fourier-transform infrared spectroscopy
- Differential Scanning Calorimeter
- Thermogravimetric analysis equipment
- Moisture Analyser
- Melt Flow Index tester
- VSP/HDT apparatus
- COULOSCOPE CMS2 STEP
- Video Measuring Equipment

4. Testing Facility : Metal, Plastics and Rubber



Universal Multi measuring and Testing Machine



Optical Emission Spectrometer



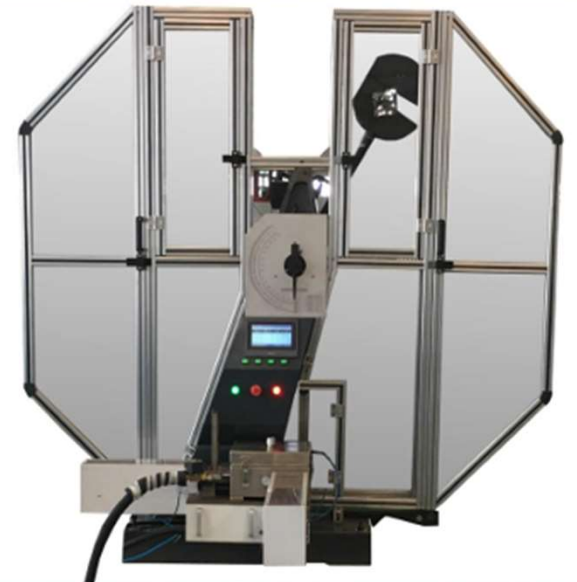
Metallurgical Microscope



Hardness (Brinell, Rockwell, Micro Vickers)



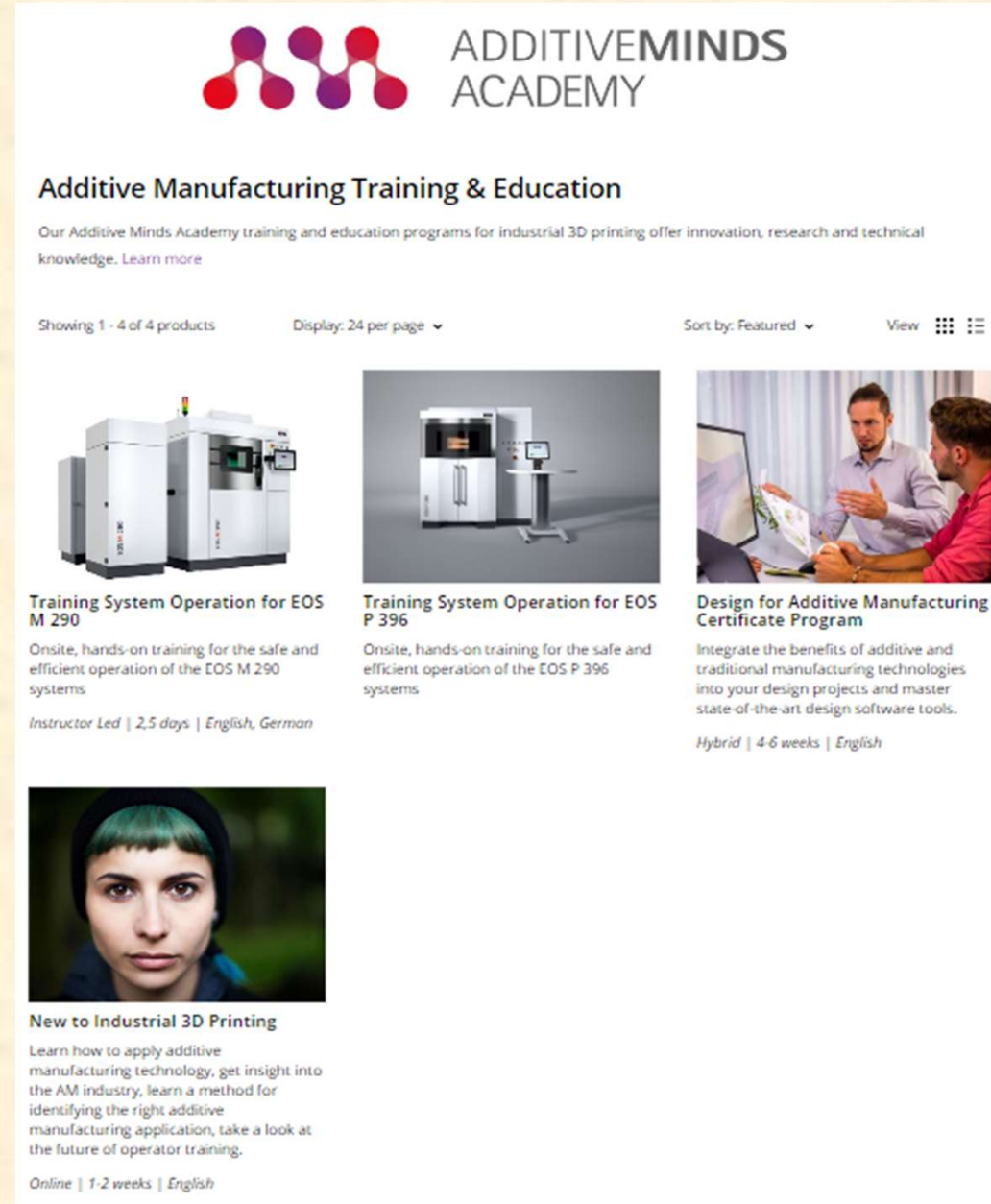
Muffle furnace:



Charpy Impact tester

5. Skill Development Centre

- CAD, CAM and Additive Manufacturing.
- Process, Skill Training and Safety Training using.
- Lean Manufacturing
- Six Sigma Quality Certification.
- ZED / ISO Training Program
- Supply Chain, Project, & Program Management.
- Virtual & Augmented Reality Tool




ADDITIVEMINDS ACADEMY

Additive Manufacturing Training & Education

Our Additive Minds Academy training and education programs for industrial 3D printing offer innovation, research and technical knowledge. [Learn more](#)


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Training System Operation for EOS M 290


Onsite, hands-on training for the safe and efficient operation of the EOS M 290 systems

Instructor Led | 2.5 days | English, German



Training System Operation for EOS P 396


Onsite, hands-on training for the safe and efficient operation of the EOS P 396 systems



Design for Additive Manufacturing Certificate Program

Integrate the benefits of additive and traditional manufacturing technologies into your design projects and master state-of-the-art design software tools.

Hybrid | 4-6 weeks | English



New to Industrial 3D Printing

Learn how to apply additive manufacturing technology, get insight into the AM industry, learn a method for identifying the right additive manufacturing application, take a look at the future of operator training.

Online | 1-2 weeks | English

6. Patent Facilitation Centre *

- Trademark Registration.
- Patent Filing

7. Academic Collaboration :

Institution collaboration with **Anna University (MIT)** and **Sri Sairam Institutions**.

- **Research Collaboration.**
- **Industrial Automation and IOT Project**
- **Industry – Institution – Interaction Centre**

-Industry Problem Statement will be converted to projects

Special Purpose Vehicle



Precision Engineering and Technology Centre:

PETC set up as a not-for-profit organization with the objective of serving Micro, Small, and Medium Enterprises (MSMEs) by providing services as mentioned at a nominal cost.

The goal of PETC is to support the growth and development of MSMEs in the field of Precision Engineering and Technology Development.

Who can be a SPV:

Any Micro, Small, and Medium Enterprise (MSME) that is registered in the state of Tamil Nadu can participate and become a part of the Special Purpose Vehicle (SPV).

Special Purpose Vehicle

SPV Membership Fee:

The membership & share holding comes with a contribution of **Rs. 2,50,000** (as membership fee and share holding) and by joining as a member of this SPV, MSME units can access various benefits at a subsidized cost. There will be yearly maintenance charges applicable as per the management committee recommendations.

Benefits to the SPV's:

SPV membership and shareholding.

Discount:

Priority Service and special discount from the regular rack rate on the services provided by PETC. This discount is subject to the terms and conditions set by PETC.

Contact Details:



PRECISION ENGINEERING AND TECHNOLOGY CENTRE

(Precision Manufacturing Mega Cluster, Govt of Tamil Nadu)

CIN: U73200TN2022NPL149484

The Centre of Excellence, SIDCO Building

PP3, SIDCO Industrial Estate, Thirumudivakkam, Chennai-132

Email ID: info@petechcentre.com

R Selvam

Managing Director
+91 9940640834

S Senthil Kumar

Director - Admin
+91 99404 44344

*Thank
You*