



Noida Institute of Engineering & Technology, Greater Noida

(An Autonomous Institution)

(First Private Institute)

AICTE – IDEA LAB EVALUATION PRESENTATION

Presentation by
Prof. (Dr.) Praveen Pachauri
Director Project & Planning
NIET Greater Noida

www.niet.co.in

ABOUT INSTITUTE

**Established in
2001**

Run by:
**City
Educational
Social Welfare
Society**
Meerut

Campus
Extended over
13.85 acres
of land

**Approved
by
AICTE
New Delhi**

Affiliated to
**Dr. A. P. J.
Abdul Kalam
Technical
University
Lucknow**

First
Private
AUTONOMOUS
Institute
of AKTU

NIRF
Ranking
201-250
Rank Band

Accredited
by
NAAC
(With CGPA 3.23
A Grade)

NBA
Accredited B.Tech
(CSE, ECE, ME, IT, BT)

Ranked
Among Top 50
Institutions in
ARIIA
Ranking

GOLD
Ranking by
QS I-Guage

Institute Achievements

NAAC
Grade A with
CGPA 3.23



QS I-Gauge
Gold
Certificate

NBA
Accredited
B.Tech (CSE, ECE,
ME, IT, BT)



E-Lead
Certificate

NIRF
Rank Band
201-250



Ranked
Among 50
Institutions
in ARIIA
Ranking

AKTU Results:
6th in 1st
Year



SMART INDIA
HACKATHON
Software Nodal
Center

NITTTR
Chandigarh:
Outstanding
Institution
Award



University
Approved
Research
Centers
(ME & ECE)

250+
Campus
Drives



Center of
Excellence:
Intel Intelligent
Systems Lab,
Mercedes-Benz,
BMW, PTC,
Microsoft
Innovation
Center

Gold Rating in
AICTE-CII
Survey of industry
Linked Technical
Institutes



Confederation of Indian Industry



DATAQUEST

Ranked by
DATAQUEST
8th Rank
Private
T-Schools
in PAN
India

Vision, Mission & Quality Policy

To be an institute of **academic excellence** in digital arena with global outreach delivering socially responsible professionals, to become a **university** and an **entrepreneurial hub**.



Our quality policy is to develop **highly skilled human resources** with the ability to adopt an intellectually and technologically changing environment with the participative efforts of the management, staff, students and parents

- To impart **quality education** and hone student's **skills and competencies** making them future ready.
- To **foster an ecosystem** for research, product development, innovation, incubation and entrepreneurship.
- To instill **values and ethics** to produce socially responsible technocrats addressing global problems.
- To develop an environment for sharing and exchange of resources globally for **lifelong learning**.

Courses Offered

U.G. (B.Tech.)			P.G. (M.Tech.)		
CSE 240	CS(IOT) 60	CS(AI) 120	VLSI 09	Cyber Security 30	AI 30
CS (AI&ML) 180	CS (CSBS)-TCS 60	CS(DS) 180	CSE 24	BT 18	ME 24
CS 60	IT 180	ME 120	B.Tech + M.Tech Integrated 60	MCA 60	MBA 120
ECE 180	BT 60		BACHELOR OF VOCATION (B. VOC.) Robotics and Automation		30
			BACHELOR OF VOCATION (B. VOC.) Automobile Engineering		30

Centre of Excellence & Innovation Labs

Mercedes Benz Centre of Excellence

Big Data Analytics Lab with Dell EMC

Mobile Application Development Lab

COE of Salesforce

Cloud Computing Lab with AWS

PTC Centre of Excellence on Industry 4.0

Applied Robotic Control Lab

Clinical Research & Bio-Informatics

Intel Intelligent Systems Lab

IBM IOT Lab



TIE-UP WITH



Smart Manufacturing Labs



Manufacturing & Machining Lab



Automation Control Lab



Product Design & Development Lab



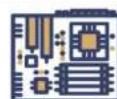
Validation Lab



Reverse Engineering Lab



Rapid Prototyping Lab



IOT Lab
in association with
ThingWorx
PTC SIMPLIFILE



Reality Lab



Augmented Reality Lab

1st PTC Centre of Excellence in Asia

No. of Students Trained & Certified

PTC Creo

358

PTC WIND CHILL

56

AR/VR

54

IoT

121

Head of the Institute and Chief Mentor



Prof. (Dr.) Vinod M. Kapse

Director

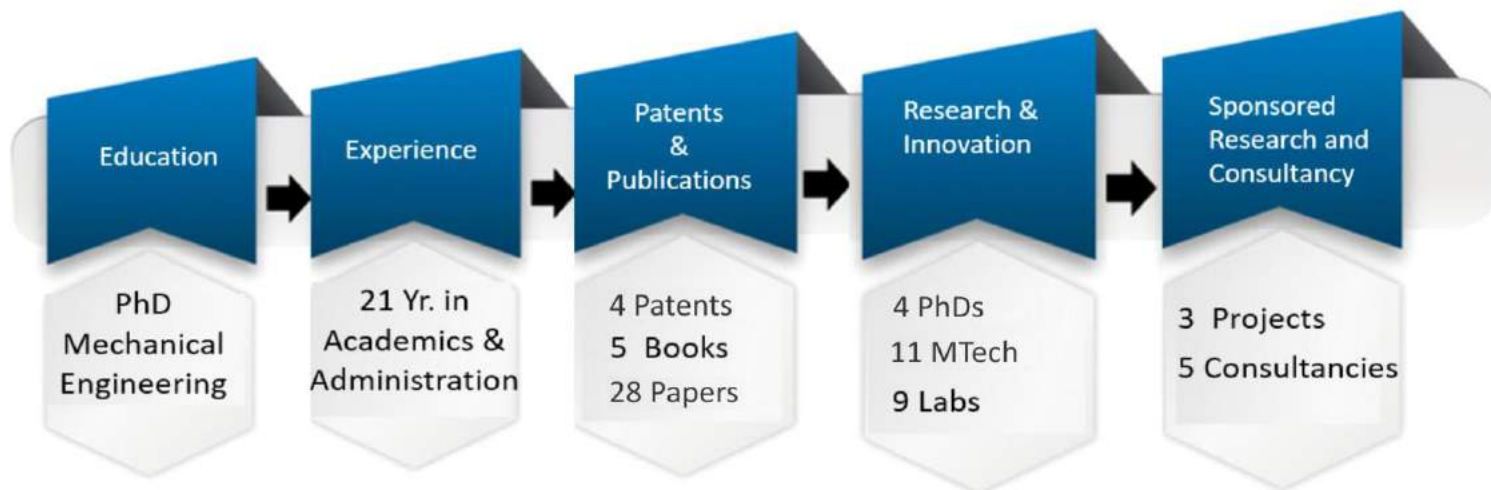


About Coordinator



Prof. (Dr.) Praveen Pachauri

**Director
(Project & Planning)**



About Co-coordinator



Mr. Ashutosh Kr. Singh
**Associate Dean
(MOOCs & Innovation Lab)**

Build Up Area (in sq.ft)

- Lab Space : 4531.3
- Work station space : 1319
- Additional space :1230.46
- Meeting / Conference room space : 2887.92

Vision of the IDEA Lab

To foster an ecosystem of Digital Factory for testing, validation and transformation of ideas into products to support **mission Atmanirbhar Bharat**.



Benefits to students and staff

- ❑ Opportunity to develop patentable products for IPRs.
- ❑ Technical Events like FDPs, skilling programs, boot camps, conference, symposium and workshops.
- ❑ Training on cutting edge facilities
- ❑ Fabrication Lab for prototype development
- ❑ Consultancy work
- ❑ Summer Internships



Integration of IDEA Lab with existing facilities

- The institute has well developed facilities in compliance with Industry 4.0 requirements. Facilities available to be integrated with IDEA Lab.
 - Reverse Engineering,
 - Rapid prototyping,
 - 3D printing,
 - Pneumatic system design lab,
 - CNC machines,
 - Robotic arm for MIG welding
 - Mechatronics Lab
 - Sintering Furnace
 - Testing facilities
 - Higher End software labs and many more.

3D Scanner: Make: Shining 3D

Model: Ein Scan Pro

Scan Accuracy: 0.04 mm(single shot accuracy)

Scan Range: 209*160 mm——310*240 mm

Texture Scan: Yes (with Add-on: Color Pack)

Youtube: <https://www.youtube.com/watch?v=qDtfE5s6XRc>

Specification: <https://www.einscan.com/handheld-3d-scanner/einscan-pro-hd/>



3D Printer: Make: Delta Wasp

Model: Turbo 2

Materials: ASA, PLA, ABS, Flex, HIPS, PETG, TPU, POLYPROPYLENE, ABS+PC, PA carbon

Printing Volume: Ø200mm x h400

mm Print Chamber: closed and

heated Minimum Layer Height: 50

micron Maximum Printing Speed(*):

500 mm/s

Youtube: <https://www.youtube.com/watch?v=X2o0MVy6f0k>

Specification: <https://www.3dwasp.com/en/fast-3d-printer-delta-wasp-2040-turbo2/>



3D Printer: Make: Formlabs

Model: Form2

Technology: Stereolithography

(SLA) Build Volume: 145 × 145

× 175 mm

Layer Thickness (Axis Resolution): 25, 50, 100 microns

Youtube:

<https://www.youtube.com/watch?v=8tn5zA5bNSE>

Specification: <https://formlabs.com/3d-printers/form-2/tech-specs/>



3D Printer: Make: Mark Forged

Model: Onyx Pro

Process: Fused Filament Fabrication, Continuous Filament Fabrication Build

Volume: 320 x 132 x 154 mm (12.6 x 5.2 x 6 in)

Machine Footprint: 584 x 330 x 355 mm (23 x 13 x 14 in)

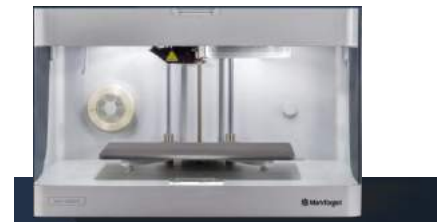
Plastics Available: Onyx

Fibers Available: Fiberglass

Layer Height 100 μ m default, 200 μ m maximum Youtube

https://www.youtube.com/watch?v=DmW5_aljZ4k

Specification <https://markforged.com/3d-printers/onyx-pro>



Industrial Robot: Make: KUKA (German)

Model: KR 10 R1420

Pay load: 10 kg

Max. reach: 1420 mm

Youtube https://www.youtube.com/watch?v=QMZ2h6mr_mM



CNC Turning Centre: Make: Batliboi Ltd.

Model: Sprint 16TC

Chuck size: 165mm (std.) & 200mm (opt.) Max.
turning length with chuck: 300mm Max. turning

length between centre: 325mm

Youtube https://www.youtube.com/watch?v=Hg1rm_CeZml



CNC Vertical Milling Machine: Make: JYOTI

Model: PX 20 nvu

Work Table size: 660*460 mm X,Y&Z

axis travel: 510mm

Youtube: https://www.youtube.com/watch?v=0MOyHII_JM



Power Press Machine: Make: Vishal Traders

Specification: 5hp, 3phase Induction motor Load

Capacity: 70 Ton

Youtube: <https://www.youtube.com/watch?v=ZDfPgVHmhyQ>



Band Saw Machine: Make: Laxmen Metal Sawing

Specification: 1hp, 3phase Induction motor

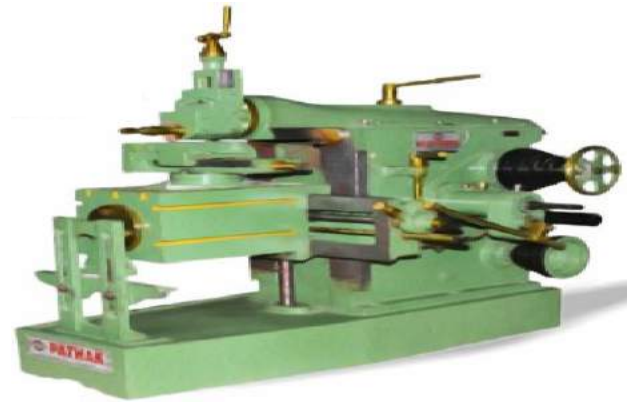
Youtube: <https://www.youtube.com/watch?v=ZfSEUci9X>



Shaper Machine: Make: R.P. Singh & Co.

Specification: 3hp, 3phase Induction motor (1440 rpm)

Youtube: <https://www.youtube.com/watch?v=v7IFSKXPmBs>



Horizontal Milling Machine: Make: UBHI

Specification: 3hp, 3phase Induction motor (1440 rpm)

Youtube: <https://www.youtube.com/watch?v=E7ucf4YJsIE>



Lathe Machine(pl-4): Make: Precision Tools Specifications:
1hp – 3phase Induction motor (1380 rpm) Quantity:- 4

Youtube: <https://www.youtube.com/watch?v=XXpOwsD0fWM>



Proposed Equipment for IDEA Lab

Name

- Laser Cutter
- Vinyl Cutter
- 3D Metal Printer
- CNC Router
- Desktop Lathe cum Milling
- Drilling M/c 1 HP Motor
- Handheld High Speed Drilling machine
- Benchtop Grinder Machine
- Solder stations
- Desoldering machine
- Advanced Sewing Machine
- Portable Welding M/cs
- Microwave Oven
- Magnifying Glass with Stand
- Digital Microscope
- Mixed Signal Oscilloscope

Name

- Digital Storage Oscilloscope
- Signal Generator
- Variable Power Supply
- Benchtop Multimeter
- Heavy Duty Laser Printer
- PCB Milling Machine
- PCB prototype machine
- Computer Workstation
- Quadcopter assembly kit
- Smart Board
- Relay modules
- GPIO Modules
- Electric Bicycle Motor & Accessories

Planned non-recurring expenditure: Rs 96,47,392/-

Planned recurring expenditure: Rs 53,07,000 /-

Proposed activities for IDEA Lab

Activities	Frequency	Participants
FDP (06 Days)	02	Faculty (20)
Skilling Programs (06 Days)	04	Students (20-30)
Bootcamps (12 Days)	02	Faculty (05 to 10)
Ideation workshops(03-05 Days)	04	Students (30 -40)
Awareness Workshops for Industry (02 Days)	04	Industry participants (5-10)
Internships (2 to 6 months)	02	Students (15-20)
Professional Skilling Programs (12 Days)	04	ITI students or class 10/12 pass students (5-10)
School Teachers Awareness Program (06 Days)	02	Teachers of nearby schools
Open Day for school students (one day)	05	Students nominated by schools (25-30)
Participation in annual technical exhibitions	01	Nationwide IDEA labs
Annual conference/symposium of all IDEA labs	01	All IDEA Labs

Alignment with national initiatives/ Technology Vision 2035

- The IDEA Lab in the Institute will support all key features of National Technology Vision 2035 by providing opportunity for development, empowerment, inclusiveness, and sustainability.
- The lab will provide opportunity to culminate some of the prerogatives defined under National Vision
 - clean air and potable water;
 - 24x7 energy;
 - decent living habitat;
 - quality education, livelihood and creative opportunities;
 - safe and speedy mobility;
 - public safety and national security;
 - eco-friendly conservation of natural resources.

Plan for sustenance of IDEEA Lab beyond two years :

- ❑ The Lab will be able to generate funds from commercial usage of the facilities by nearby industries at a very nominal rate.
- ❑ Some of the IPRs will certainly find their commercial usage.
- ❑ The innovative products developed by the innovators and startups will be an input for new startup companies in the institute Technology Business Incubator (TBI-NIET).
- ❑ Various events will be organised on regular basis to optimally utilize the resources.
- ❑ The students from nearby region will have an opportunity to use the lab facility beyond institute hours as the lab will be open 24x7,

THANK YOU