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NITI Aayog | ATAL INNOVATION MISSION | AIC NITTE INCUBATION CENTRE

FABLAB

MAKING IDEAS

The Content

What Is Fab-Lab?

A Fab-Lab, short for Fabrication Laboratory, is a collaborative workspace equipped with advanced tools and machines for digital fabrication and rapid prototyping. It provides individuals with the means to design, prototype, and manufacture physical objects using a variety of materials and technologies.

At a Fab-Lab, you can find a diverse range of equipment and resources spanning multiple disciplines. These include an electronics lab, where you can work with sensors, circuits, and soldering tools to create and experiment with electronic devices. The machines lab houses machinery such as 3D printers, CNC (Computer Numerical Control) machines, and laser cutters, which enable precise and automated manufacturing processes.

The mechanical lab within a Fab Lab typically contains an array of power tools and machines, facilitating activities like woodworking, metalworking, and general mechanical fabrication. These tools enable the creation of physical objects with various materials and techniques.

Additionally, Fab Labs often offer training and educational programs to help individuals develop skills in digital fabrication and design

Fab-Labs Are For

Students

Hands-on experience in design and fabrication.

Entrepreneurs

Prototype and refine product ideas.

Artists and Designers

Explore new techniques and materials.

Makers and Hobbyists

Create personal projects and DIY electronics.

Researchers and Innovators

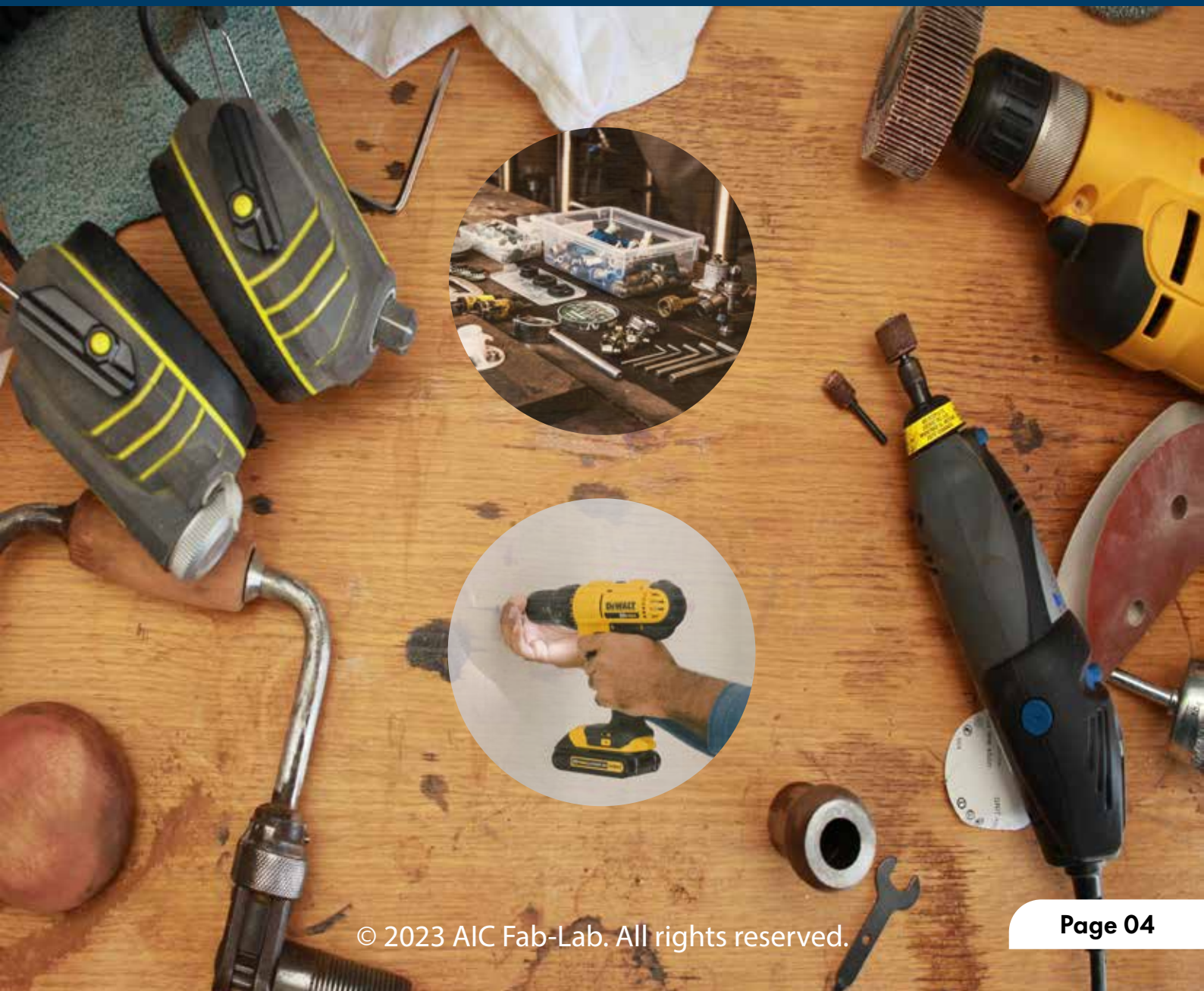
Prototype and test ideas.

Community Organizations

Offer workshops and training programs for skill-building and innovation.

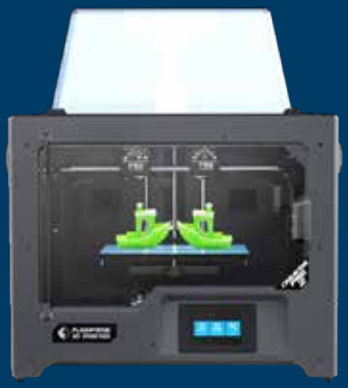
Machines Lab

- Shape your ideas with precision using advanced machining tools.
- Develop intricate and complex parts with the use of power tools.
- Work with a variety of materials including metals, plastics, and composites.
- Master the art of precise measurements and machining techniques.
- Turn raw materials into functional prototypes and finished products.



Machines Lab

Additive Manufacturing



Dual Nozzle 3D Printer
(FlashForge Creator Pro 2)

PLA, ABS, TPU & PETG
1.75mm Fillaments

Subtractive Manufacturing

CNC Router Milling Machine

CNC Laser Engraving and Cutting Machine

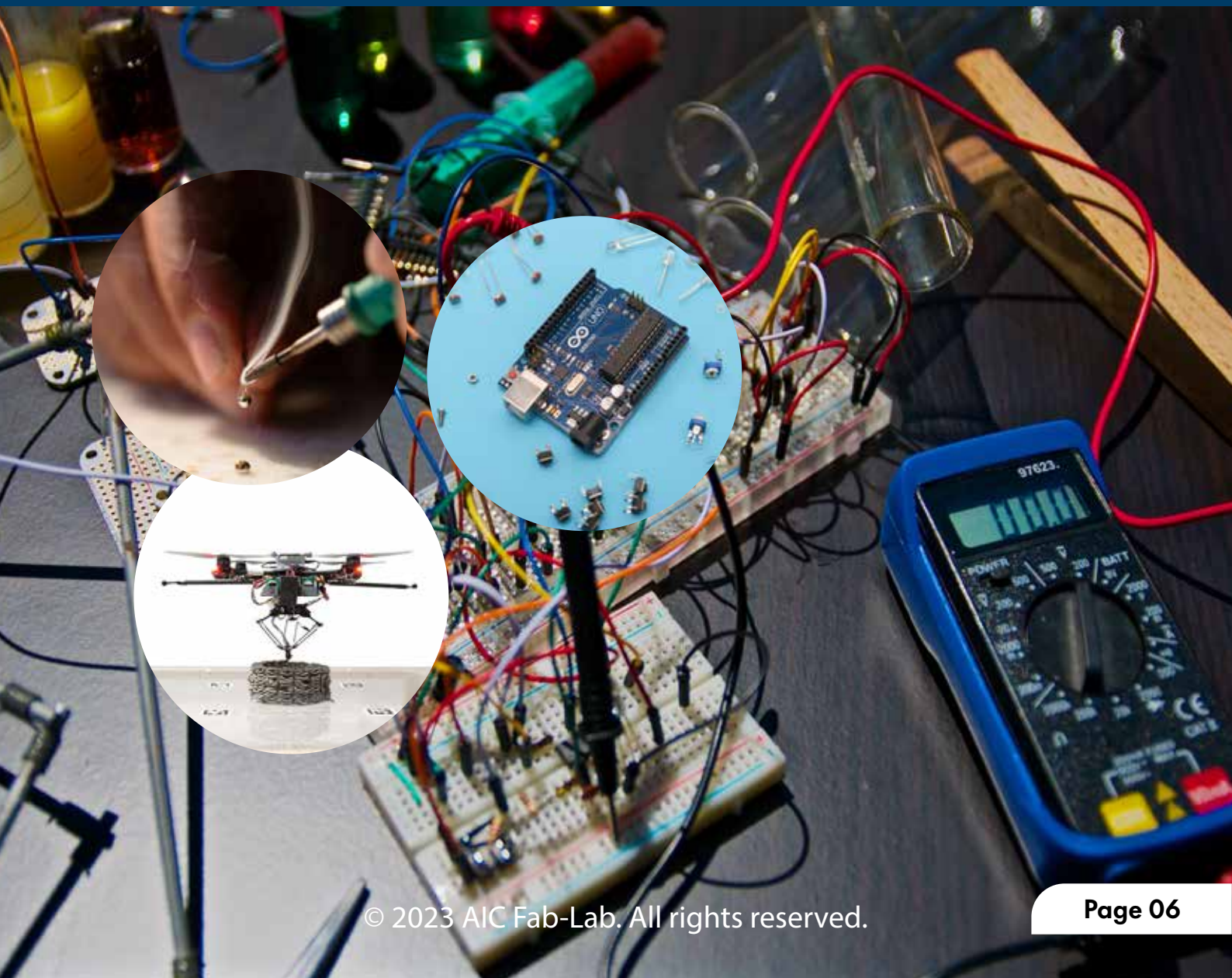
Others

Drill press

Vinyl Cutter and Plotter

Electronics Lab

- Dive into the fascinating world of electronics and circuit design.
- Develop circuits and systems for various applications.
- Learn soldering, PCB design, and assembly techniques.
- Access a wide range of components for experimentation and prototyping.
- Bring your electronic projects to life and explore the realms of IoT and automation.



Electronics Lab

SMD Soldering+ rework setup

OTG (Borosil PRIMA 10L Oven Toaster Griller)

SMD Soldering Oven Controller (DUEEPI)

SMD Rework Station (Quick 850A)

Circuit testing setup

Oscilloscope+Waveform Generator (In Box) (Hantek MPO6104D)

PC Oscilloscope (Hantek)

Portable Digital Microscope

Tool, Equipments and Instruments Setup

Drone kit (pluto 1.2)

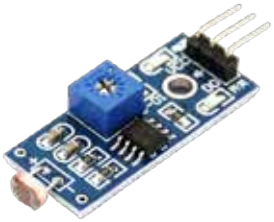
Arduino UNO R3

Soldering

Helping hands with magnifying glasses

Sensors

Fingerprint Sensor Module



Ambient light sensor module

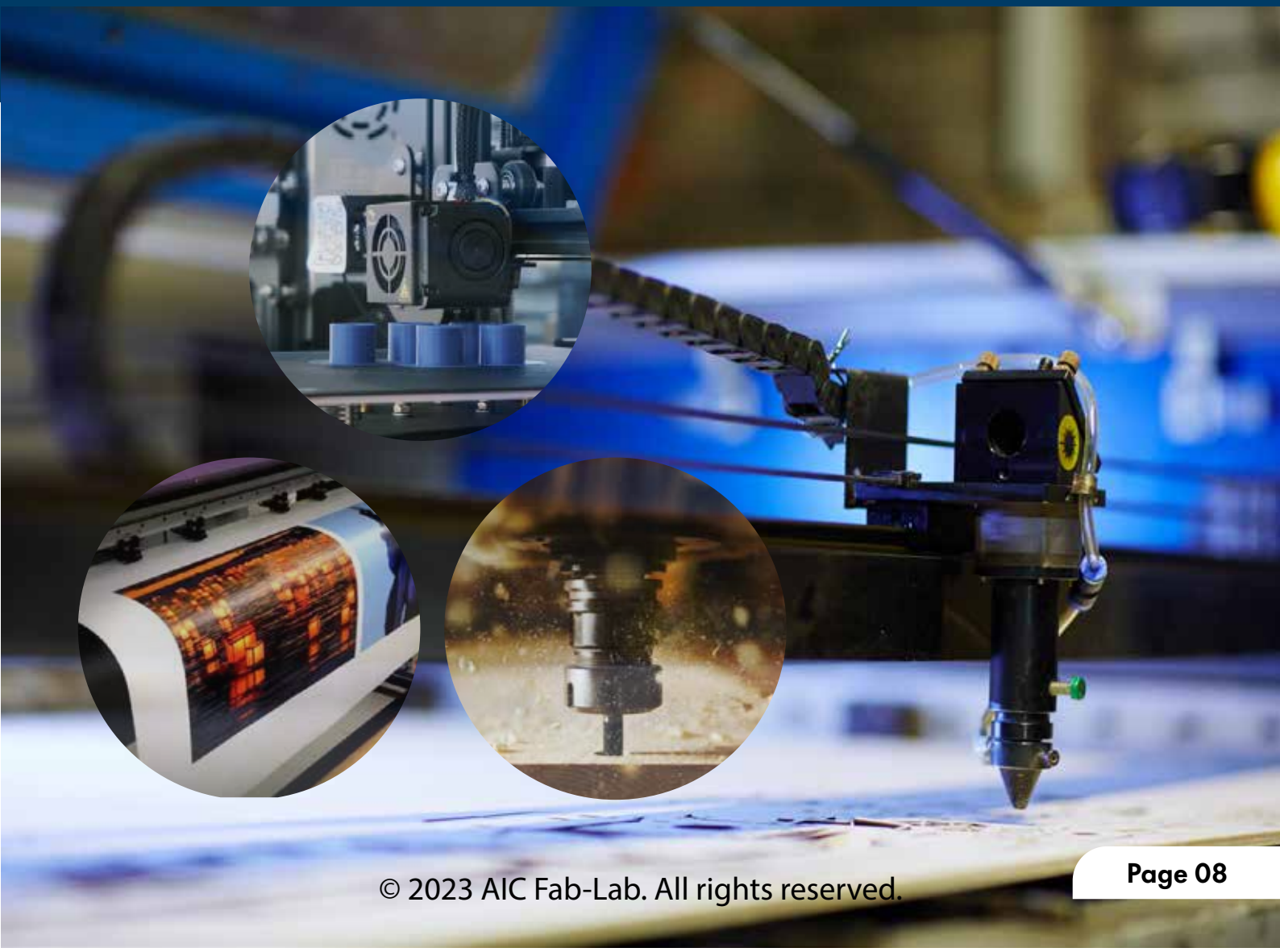
Water Flow Sensor

PIR Sensor Module

Triple Axis Gyro Accelerator Sensor Module

Mechanical Lab

- Explore the world of mechanical engineering and innovation.
- Design and prototype mechanical components and systems.
- Access a wide range of tools and equipment for fabrication and assembly.
- Bring your ideas to life through 3D printing, laser cutting, CNC routing and more.
- Learn practical skills in CAD/CAM software and computer-aided manufacturing.



Mechanical Lab

Measuring Apparatus

Digital Vernier Calipers

Digital Outside Micrometer

Electric Height Gauge

Handheld Powered Tools

Heat Guns (Stanley)

Handheld Router with 12 Bit set (Maktec)

Cordless Drill

Electric Blower and Dust collector (Stanley)

Spray Paint Gun

Table-Top Machining Tools

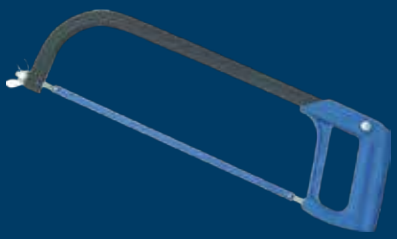
Mini Bench Drill

Arc Welding Machine

Mini Woodworking Lathe

Air compressor system with pipe

Manual Tools



Hacksaw big

Screwdriver set

Cutting Pliers

Assorted Hex Key set

Cerification Courses & Workshops

Unleash your potential at our Fab-Lab with our diverse range of certification courses and workshops. From engineering marvels to design unleashed, technological frontiers, and transcending boundaries, we offer hands-on learning experiences across multiple disciplines. Whether you're passionate about 3D printing, CAD design, programming, or pursuing a unique interest, we have something extraordinary for you. Join us and embark on a journey of innovation and personal growth.

Enrolling in our certification courses and workshops unlocks a world of benefits:

1. **Marketable Skills:** Acquire practical, in-demand skills that make you stand out in the job market.
2. **Enhanced Career Prospects:** Position yourself as a capable professional ready to make an impact in your field.
3. **Inspiring Networks:** Connect with like-minded individuals, industry experts, and potential mentors.
4. **Unleashed Creativity:** Nurture your creative spirit and push the boundaries of what's possible.

FAB Community & Networking

At our Fab-Lab, collaboration and community are at the heart of everything we do. Join us to connect, learn, and create together.

- Collaborative Spirit: Our Fab Lab brings together students from diverse backgrounds, fostering an environment where ideas flourish. Work alongside like-minded individuals, exchange knowledge, and embark on exciting projects.
- Events and Competitions: Showcase your projects, receive feedback, and form valuable connections through our events and competitions. From project showcases to hackathons, networking and inspiration abound.
- Meetups and Workshops: Expand your network, gain insights, and stay at the forefront of technology through our meetups and workshops. Connect with experts, enthusiasts, and industry professionals.
- Mentorship and Guidance: Our experienced mentors, passionate about nurturing the next generation of innovators, offer guidance, support, and a valuable network of contacts to help you overcome challenges.

At our Fab-Lab, collaboration and networking are essential for success.

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Join the Fab-Lab Innovators Club

Scan To Register!

Scan To Join Whatsapp Group

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