

# BRIO AI AND ROBOTICS LAB

Empowering students with training in AI, Robotics, Mechatronics, and Industry 4.0 Technologies.



[www.briotouch.com](http://www.briotouch.com)

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# BRIO AI & ROBOTICS SCHOOL LAB



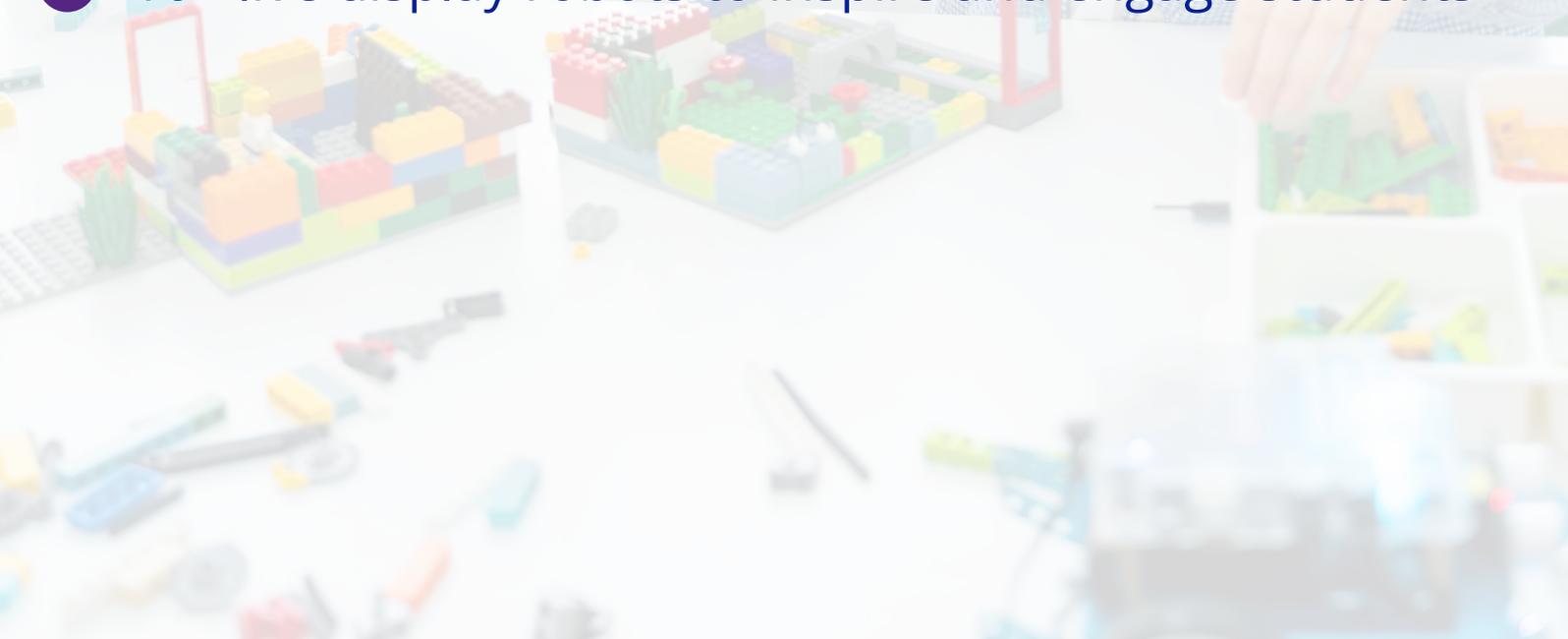
- ✓ AI & Machine Learning Integration for Students
- ✓ Teacher Training & Digital LXR Platform
- ✓ DIY Kits for Robotics, AI, and Drone Learning
- ✓ Curriculum-Aligned Learning (Grades 6–12)
- ✓ Drone Navigation & Humanoid Robotics



## WHAT WE PROVIDE

**Brio Robotics & AI Lab** is where curiosity meets capability. Built for students from Grades 6 to 12, this lab fosters critical thinking, coding, and innovation through real-time projects and hands-on experiences, preparing learners for tomorrow's tech-driven world

- ✓ 60+ Robotics Kits & Display Units
- ✓ Real Projects: Bins, Bots & Drones
- ✓ Lab zones for coding, assembly, and showcase
- ✓ LXR Platform Access + Trainer Deployment
- ✓ 10+ live display robots to inspire and engage students





## WHAT WE PROVIDE

### Designed for Grades 6–12

Curriculum-Aligned | Hands-On Kits | Drone & Robotics Lab | Train the Trainer | A National Education Policy (NEP 2020) Aligned Initiative

### Explore & Build (Grades 6–8)

Light-operated bots, water/fire sensors, Smart Dustbin project

### Code & Control (Grades 9–10)

Arduino, path-finding robots, medical robotic arms

### Engineer & Innovate (Grades 11–12)

Drones, PCB design, humanoids, AI application

### Lab Setup & Support

Equipment, Trainer Deployment, Project Showcases, Certifications

Digital LMS (LXR), Continuous Monitoring & Maintenance

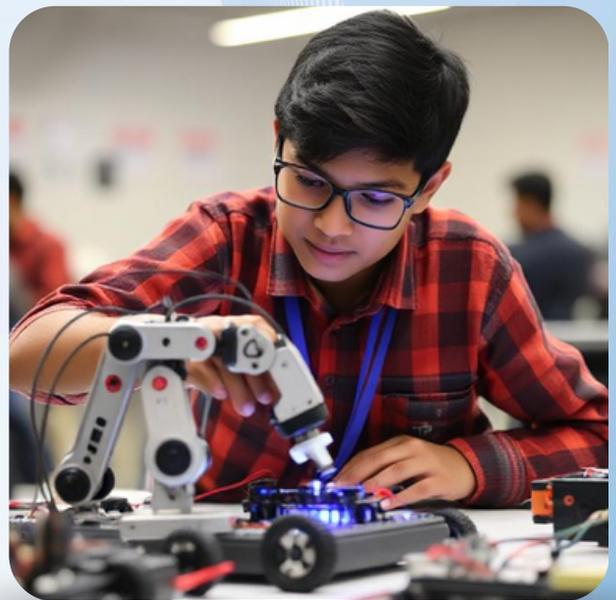


# BRIO INTERACTIVE TECHNOLOGIES LIMITED

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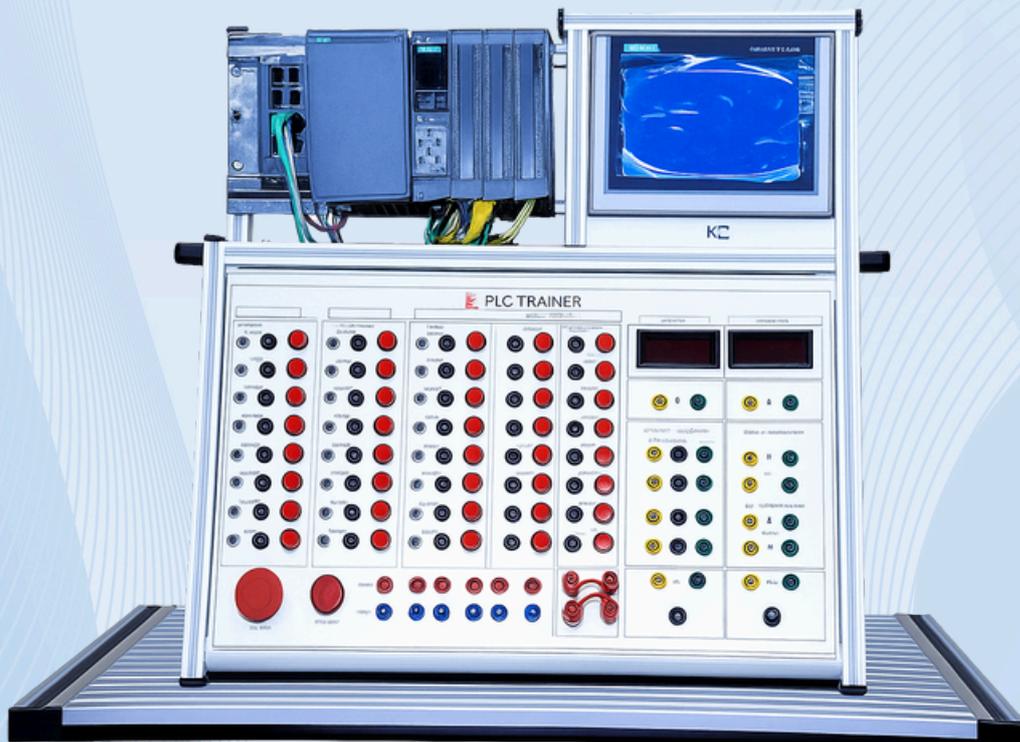
## INDUSTRY 4.0: REAL IMPACT FOR THE NEXT GENERATION

We propose a collaboration to establish Industry 4.0 Labs in Automation, Mechatronics, Robotics, AR/VR, and CNC Manufacturing. These labs will feature technology that support both training and research. These Labs of Industry 4.0—focusing on . These centers will deliver PG Diploma programs, foster industry-driven research, and empower students with job-ready skills through the latest technologies. We look forward to the opportunity to meet and explore this collaboration



## **LAB 1 : INDUSTRIAL AUTOMATION LAB**

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**Siemens, Basic PLC, Ladder programming Software, SCADA, HMI, VFD, AC Servo Drive, Traffic Light and Elevator Module**

- **Based on Siemens S7-1200 PLC, SCADA, HMI, and VFD technology.**
- **Covers ladder logic programming and automation concepts.**
- **Includes practical models like elevator control and traffic light systems.**
- **Features interfacing with electrical components and motor control.**
- **Enables students to simulate and operate industrial automation setups.**

## LAB 2 : SENSOR TECHNOLOGY LAB

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Analog and Digital Sensor which are used for design for mechatronics application development. All sensors are in modular form to study every characteristic and so as to use all those sensors for application development.

- Includes a wide range of analog and digital industrial sensors.
- Covers ultrasonic, proximity, LVDT, force, pressure, and temperature sensors.
- Allows students to interface sensors with programmable systems.
- Supports real-time data sensing and control applications.
- Ideal for building foundational knowledge in sensor-based automation.

## **LAB 3 : INDUSTRIAL PNEUMATICS LAB**

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**It includes Basic Pneumatic, Electro-Pneumatic Modular components with 40MM X 40MM aluminum profile based experimental platform with Industrial Pneumatic - (SMC/Festo/Janatics/Rexroth). All Pneumatic components must with quick release couplings.**

- **Includes pneumatic circuit design using SMC or Festo components.**
- **Teaches sequencing, multi-cylinder operation, and time-delay circuits.**
- **Focuses on control valve configuration and actuator mechanisms.**
- **Combines manual and automatic modes with real hardware.**
- **Helps students understand automation using compressed air systems.**

## **LAB 4 : INDUSTRIAL HYDRAULICS LAB**

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**It includes Basic Hydraulic, Electro-Hydraulic Modular components with 40mX 40mm Aluminum profile based experimental platform with Industrial Hydraulic - SPC / Festo / Janatics / Rexroth). All Pneumatic components must with quick release couplings.**

- **Offers training on hydraulic power circuits and control systems.**
- **Includes components like actuators, flow control and pressure relief valves.**
- **Teaches regenerative circuits, sequencing, and accumulator functions.**
- **Integrates PLC control with electro-hydraulic simulation.**
- **Simulates industrial hydraulic applications under safe conditions.**

## **LAB 5 : INDUSTRIAL MECHATRONICS LAB**

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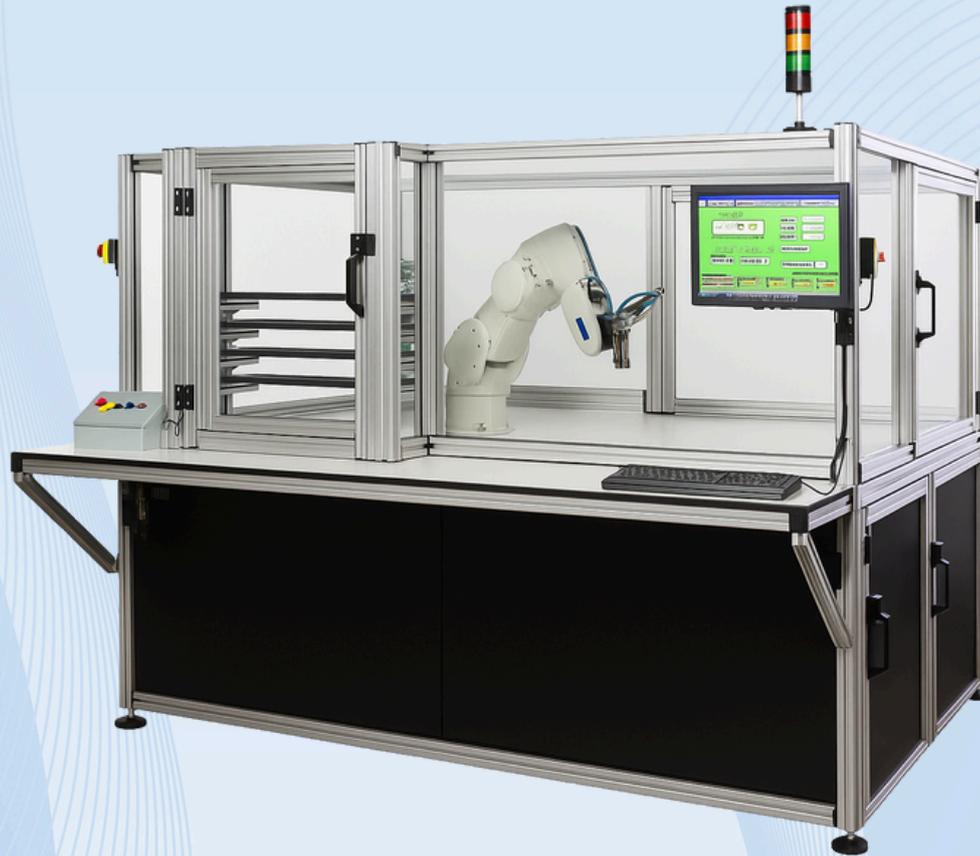


The mechatronics lab includes feeder, process, buffer, distribution, and sorting stations, integrated with pneumatics, sensors, and programmable logic. Students work on tasks like part identification, assembly, and sorting using simulation tools.

- Comprises 5 stations: Feeder, Process, Buffer, Distribution, and Sorting.
- Uses pneumatic technology with sensors for automation control.
- Compatible with Industry 4.0 and virtual simulation software.
- Supports student-led innovation on a modular, real-world platform.
- Simulates smart factory functions like color sorting and drilling.

## **LAB 6 : INDUSTRIAL ROBOTICS LAB**

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**The Industrial Robotics solution for Yaskawa (Motoman) Robotic Solution with Stamping, Pick and Place, Drawing applications as per the Industry Standards.**

- **Based on a 6-axis articulated industrial robot.**
- **Enables applications like pick-and-place, color sorting, and stamping.**
- **Features teach pendant and offline simulation tools.**
- **Supports integration with PLC and smart sensors.**
- **Designed for robotic programming and hands-on manipulation.**

## **LAB 7 : AR/VR TECHNOLOGY LAB**

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**Includes software platform for AR/VR technology design for Android and iOS.**

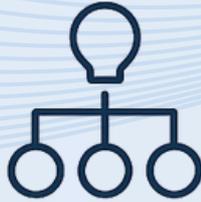
- **Includes hardware for immersive virtual learning.**
- **Supports simulation of real-time machine status in AR/VR.**
- **Allows students to develop content for Android and iOS.**
- **Enhances visualization of factory layouts and operations.**
- **Integrates AR/VR with mechatronics for a smart learning experience.**

## LAB 8 : AI/ML TECHNOLOGY LAB

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DATA



ALGORITHMS



ROBOTICS



AUTOMATION

## BRIDGING DATA, INTELLIGENCE & INDUSTRY

The AI/ML Technology Lab is a future-focused learning environment built to equip university students with hands-on experience in Artificial Intelligence and Machine Learning. This lab introduces students to real-world tools and platforms used in industries for data analysis, predictive modeling, computer vision, natural language processing, and neural networks.



*Schedule a personalized demonstration with our experts to explore how Brio AI and Robotics Lab can transform your workspace.*

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