



Proposal for Establishment of Composite Skill & Innovation Lab

(STEM • Robotics • Artificial Intelligence • IoT Coding • 3D Printing • Drone • AR/VR)



Wizkin Global Private Limited

📍 209/1 Mangle Pandey Nagar Near, Meerut, 250002,

✉ hello@maaeducation.com

🌐 www.maaeducation.com

About MAA Robotics

MAA Robotics is an educational innovation brand focused on DIY STEM kits, robotics solutions, artificial intelligence learning tools, coding platforms, and hands-on experiential learning for schools. MAA Robotics is a leading system integrator and manufacturer of educational kits, supporting schools and government initiatives such as PM-SHRI, ATL, CSR projects, and CBSE skill labs, along with teacher training, lab setup, and curriculum support.

Introduction

In alignment with the National Education Policy (NEP) 2020 and CBSE Skill Education Guidelines, we propose the establishment of a Composite Skill & Innovation Lab in the school. The Composite Lab is a unified, future-ready learning space that integrates STEM, Robotics, Artificial Intelligence (AI), Internet of Things (IoT), Coding, 3D Printing, 3D Pen, and AR-VR technologies under one ecosystem. The purpose of this lab is to shift learning from rote memorization to experiential, hands-on, and competency-based education, enabling students to become problem solvers, innovators, and creators.



Vision & Objectives of the Composite Lab

Vision

To nurture 21st-century skills among students by providing access to emerging technologies and experiential learning aligned with CBSE and NEP frameworks. As per the Guidelines no, Dated: 23.08.2024 Circular No.: Skill-75/2024



Objectives

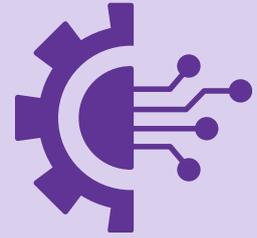
- To promote learning by doing through hands-on experiments and projects.
- To integrate 21st century skills with real-life applications.
- To develop computational thinking, creativity, and innovation mindset.
- To prepare students for future careers and global competencies.
- To support schools in effective implementation of NEP 2020 & CBSE Skill Education.



Components of the Composite Skill Lab

STEM Lab

- Hands-on science and mathematics activities
- Concept-based experiments aligned with CBSE curriculum
- Encourages observation, analysis, and scientific reasoning



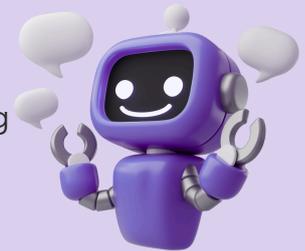
Robotics Lab

- Educational robotics kits (mechanical + electronic)
- Sensor-based and motor-based projects
- Block-based and text-based programming exposure



Artificial Intelligence (AI) Lab

- AI concepts such as pattern recognition and decision making
- AI-based activities (image, sound, and data-based learning)
- Ethical understanding and responsible use of AI



Internet of Things (IoT) Lab

- Smart device concepts (sensors, actuators, connectivity)
- Home automation, smart city, & environmental monitoring.
- Data collection and visualization



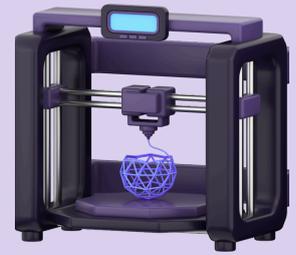
Computer Lab

- Block-based coding (Scratch / GUI-based platforms)
- Logical sequencing, loops, conditions, and debugging
- Integration of coding with math, science, and storytelling



3D Innovation Lab

- Design thinking and rapid prototyping skills
- 3D model creation and digital visualization techniques
- Creativity enhancement & artistic expression using 3D pens
- Hands-on experience with additive manufacturing



AR/VR Lab

- Immersive and interactive learning experiences
- Virtual labs, science simulations, and historical explorations
- Improved conceptual clarity through visualization



Drone Lab

- Basics of Drone Technology
- Drone Assembly and Testing
- Hands-on flight training & Simulations
- Industrial and environmental drone applications



Bal Vatika Lab

- Nurturing early childhood learning environment
- Early exposure to technology and creativity
- Foundation for lifelong learning and discovery



Atal Tinkering Lab

- Fosters innovation and entrepreneurial mindset
- Prototype building and design experimentation
- Real-world problem solving skills



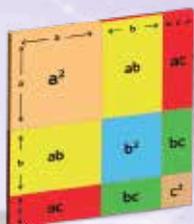
Proposed Equipment List & Packages

To cater to different school requirements and budgets, MAA Robotics offers the Composite Skill & Innovation Lab in three scalable packages. All packages are aligned with NEP and CBSE guidelines and are fully upgradeable to meet future learning needs.

Package 1: BASIC Composite Skill Lab

Grades 3–5 | Foundation Stage

| Sr No | | Details |
|-------|----------------------|--|
| 1 | STEM & Math Kits | Hands-on STEM activity kits (Grade 3–5 aligned) Measurement, patterns, numbers & logic manipulatives |
| 2 | Robotics & Coding | Entry-level educational robotics kits (block-based) Scratch / GUI-based coding software (offline/online) |
| 3 | 3D Creativity | 3D Pens (2–4 units) PLA filament for creativity |
| 4 | Electronics Basics | Sensors (LDR, IR, buzzer) Motors & controller board |
| 5 | AR–VR (Introductory) | AR learning cards / basic VR headset (1 unit) |
| 6 | Teacher Support | Activity manuals & worksheets Teacher orientation (basic) |



Package 2: ADVANCE Composite Skill Lab

Grades 6-9 | Preparatory & Middle Stage

| Sr No | | Details |
|-------|---------------------------|--|
| 1 | STEM Kits | Advanced STEM experiment kits (Physics, Math, Design) Problem-solving & innovation activities |
| 2 | Robotics & IoT | Modular robotics kits with sensors & motors IoT starter kits (temperature, motion, relay modules) Block + Python-based coding exposure |
| 3 | Artificial Intelligence | AI learning kits (image/sound/data concepts) AI-based activity modules (ethical AI included) |
| 4 | 3D Design & Printing | Desktop 3D Printer (1 unit) Design software & sample models 3D Pens (4-6 units) |
| 5 | AR-VR Learning Zone | VR headset (2 units) STEM & science virtual simulations |
| 6 | Teacher & Student Support | Structured curriculum mapping Teacher training (advanced) Project-based assessments |



Package 3: PREMIUM Composite Skill & Innovation Lab

Grades 3-9 | Flagship Schools

| Sr No | | Details |
|-------|-----------------------------|---|
| 1 | Complete STEM Ecosystem | Full STEM kits (Grade 3–10 aligned) Design Thinking & Innovation modules |
| 2 | Advanced Robotics, AI & IoT | AI-powered robotics kits Smart automation projects (home, city, environment) Data science & machine learning expo- |
| 3 | Coding Platforms | Scratch, Python & AI-based platforms LMS access for students & teachers |
| 4 | 3D Innovation Studio | 3D Printers (2 units) 3D Scanner (optional) Advanced 3D pens & materials |
| 5 | AR-VR Immersive Lab | Multiple VR headsets (3–5 units) AR-VR curriculum mapped with Science & Geography |
| 6 | Infrastructure & Furniture | Lab tables & storage units Safety accessories Branding & display boards |
| 7 | Training & Support | Dedicated trainer support (optional – 6 to 12 months) Annual maintenance & academic support Certification for students & teachers |



Advantages of the Composite Lab

Integrated Learning:

Multiple technologies under one lab

Cost-Effective:

Shared infrastructure and optimized resources

Future-Ready:

Exposure to emerging and in-demand technologies

Curriculum Aligned:

Seamless integration with CBSE subjects

Inclusive Learning:

Supports diverse learning styles

Scalable & Upgradable:

Can be enhanced grade-wise

Benefits for Students, Teachers & School

Benefits for Students



- Development of critical thinking and problem-solving skills.
- Improved conceptual understanding through hands-on learning.
- Exposure to real-world applications of academics.
- Boost in creativity, confidence, and collaboration
- Early orientation towards career pathways in STEM & technology.

Benefits for Teachers

- Activity-based teaching support
- Ready-to-use lesson plans and experiments
- Enhanced teaching effectiveness
- Professional development through training



Benefits for School

- NEP & CBSE compliance.
- Enhanced school reputation and innovation index.
- Attraction for parents and stakeholders.
- Readiness for PM-SHRI, ATL, CSR & Government initiatives.

Alignment with CBSE Skill Education Guidelines

Asper CBSE Skill Education & Composite Lab Guidelines:

- Schools are encouraged to establish multi-disciplinary skill labs.
- Focus on experiential, hands-on, and project-based learning.
- Integration of vocational and skill-based subjects with academics.
- Emphasis on coding, AI, robotics, and digital literacy.
- Continuous assessment through projects and practical work.

The proposed Composite Lab fully complies with these recommendations by offering a single integrated platform for multiple skill domains.

Alignment with NEP 2020

The Composite Skill Lab strongly supports NEP 2020 principles:

| NEP 2020 Focus | Composite Lab Implementation |
|----------------------------|------------------------------------|
| Experiential Learning | Hands-on projects & experiments |
| 21st Century Skills | AI, Coding, Robotics, AR–VR |
| Multidisciplinary Approach | STEM + Technology integration |
| Critical Thinking | Problem-based learning |
| Early Skill Development | Exposure from primary to secondary |
| Vocational Orientation | Design, automation, prototyping |

Implementation & Pedagogy

- Project-based learning approach
- Grade-wise activity mapping
- Individual and group-based activities
- Continuous assessment (no rote exams)
- Teacher training and academic support

Why choose MAA Robotics only

One Partner

One Responsibility

Zero Confusion

We are manufacturers, system integrators, and Solutions providers, which means schools get:

- Lab design & layout planning
- In-house manufactured kits (STEM, Robotics, AI)
- Software, LMS & GUI platforms
- Teacher training & certification
- Long-term academic & technical support

Certifications



GeM
Government
e Marketplace



Join us for best ever learning experience

The MAA Robotics team works dedicatedly to help students achieve greater success in the field of robotics and emerging technologies. They are highly cooperative and also provide excellent support in training teachers, ensuring effective learning and implementation in schools.

**Robotics Teacher,
St. John's Sr. Sec. School, Meerut**



Our Happy Clients



A School With Difference



& Many more..

For more detail,
contact us.

