



Where future meets innovation



# **ROBOTICS** WORKSHOP PROPOSAL

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# About Us

**Teckybot (Teck Team Solutions)** brings a wealth of experience spanning a decade in Training and Development within the dynamic domain of **Industry 4.0**. Having successfully trained over **25,000+ students** from various educational institutions, the company offers a comprehensive suite of services, including internships, academic projects, technical workshops, and more. With a primary focus on **Emerging Technologies**, Teckybot aims to instill practical thinking and logical understanding in every student, particularly emphasizing the realms of **Robotics** and **Electronics**.

In the expansive landscape of **Industry 4.0**, our focus extends across pivotal domains, encompassing **Embedded Systems, Renewable Energy, IoT, Robotics, Drones, 3D Printing, EV Technology, and Artificial Intelligence**. **Teckybot (Teck Team Solutions)** stands out with an exclusive dedication to research and development. By fostering hands-on engagement, we empower the next generation with practical insights into cutting-edge technologies, ensuring they are well prepared for the dynamic challenges of the technological landscape. Additionally, our commitment to **STEM education** underscores our mission to cultivate a holistic learning environment, bridging the gap between theoretical knowledge and real-world application.

## Founder Insights

In my entrepreneurial journey, I formed a team for comprehensive engineering training, expanding to seven experts and establishing **Atal Tinkering Labs (ATL)** for innovation. Simultaneously, workshops and internships bridged theoretical and practical knowledge. Evolving into an innovative product development firm, aligned with "**MAKE IN BHARAT**," we earned **ISO 9001:2015 certification** in robotics. Seamlessly transitioning to Teckybot, our new platform emphasizes future connections, showcasing our dedication to continuous innovation at the forefront of technology, addressing diverse societal needs, and establishing meaningful connections for the future



**- N.VENKATA REDDY**  
(Founder)



### Our Vision

Empowering Tecky's with **INDUSTRY 4.0** Technologies where future meets Innovators



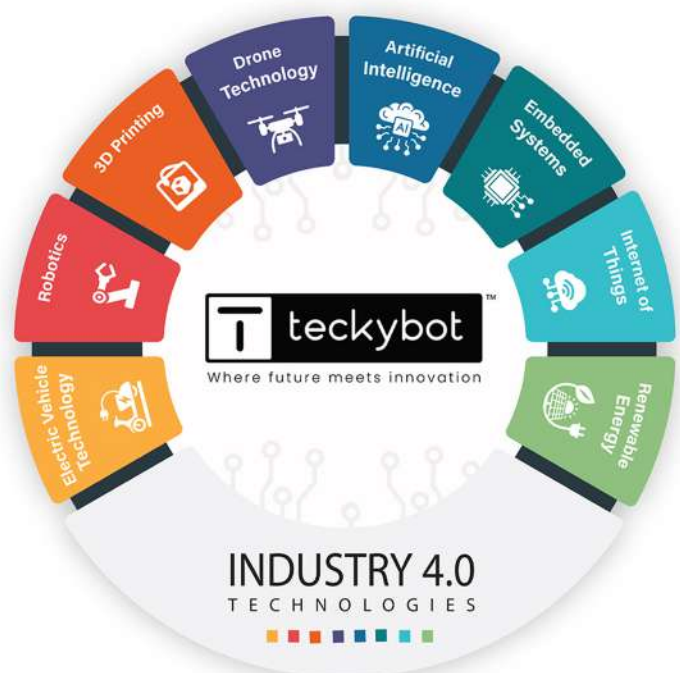
### Our Mission

To integrate our platform in Education Institutes to make Industry Innovators for **Bharat**



### Our Goal

To Create **ONE** million skilled Tecky's in Industry 4.0 by **2030**





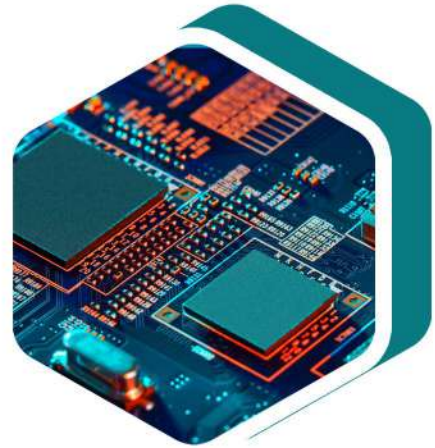


## 1. Artificial Intelligence Workshop

Artificial Intelligence (AI) and Machine Learning (ML) is one of the fastest emerging technologies. AI enables machines to simulate human intelligence and perform tasks that traditionally required human intelligence, while ML focuses on training machines to learn from data and improve their performance over time. In "AI and ML" workshop you can learn the fundamentals of AI and ML algorithms, explore real-world applications, and gain hands-on experience in building intelligent systems. Understand the ethical considerations and challenges in AI development

## 2. Embedded Systems Workshop

Embedded systems are computer systems designed to perform specific tasks within larger devices or machinery. They are called "Embedded" because they are integrated into a larger system and are dedicated to a specific function. Embedded systems are found in a wide range of everyday devices, such as smartphones, cars, appliances, industrial equipment, medical devices, and more.

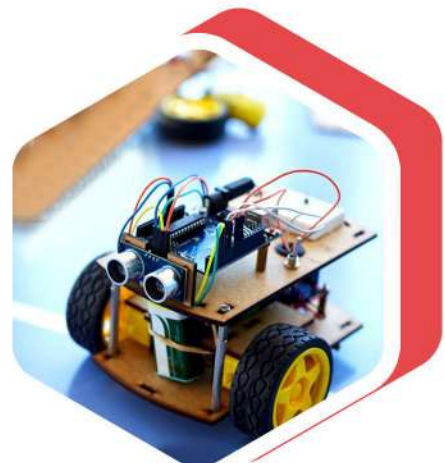


## 3. Internet of Things Workshop

IoT is one of the world's fastest emerging technologies and has many possibilities as well as opportunities. A workshop on "IoT" gives the ideology of smart devices like Android Server based applications and will cover all basics of controllers used in IoT. With this Workshop, participants shall get to experience the control of different devices using web-based programming and Embedded Systems involved in it.

## 4. Robotics Workshop

Robotics is a multidisciplinary field involving the design, construction, programming, and operation of robots. A workshop on "Robotics" gives hands-on experience building and operating robots, and explore various applications of robotics in fields such as automation, Artificial Intelligence, and more. Unlock your creativity and ignite your passion for robotics in our immersive workshop





## 5. Drone Workshop

Drones are considered as one of the fastest emerging technologies, revolutionizing industries with their versatile applications, improving operational efficiency, and paving the way for advancements in fields such as aerial photography, surveillance, agriculture, delivery, and more. In "Drone" workshop you can learn the fundamentals of drone technology and operation. Gain hands-on experience in drone assembly, flight controls, and safety protocols.

## 6. 3D Printing Workshop

3D Printing is one of the world's fastest emerging technologies and has many possibilities as well as opportunities. A workshop on "3D Printing" gives the ideology about the production of functional or aesthetic prototypes, and will cover all Techniques and Applications of 3DPrinter. With this Workshop, participants will get experience in making their own Prototype and Working models.



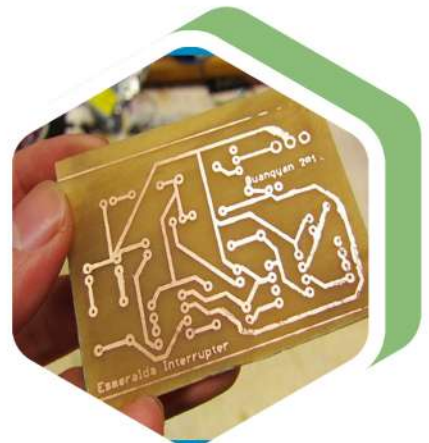
## 7. Electric Vehicle Workshop

EV is one of the most promising and transformative technologies in the transportation sector. It offers a sustainable and eco-friendly alternative to traditional combustion engine vehicles, reducing emissions and dependence on fossil fuels. In "EV" workshop you can learn about the principles of electric vehicle technology, battery systems, charging infrastructure, and the environmental benefits of EV adoption. Get hands-on experience with EV components, understand the integration of renewable energy sources, and discover the future of clean mobility in our interactive workshop led by experts in the field.



## 8. PCB Workshop

PCB technology, which stands for Printed Circuit Board technology, plays a vital role in the field of electronics. It is the backbone of modern electronic devices and provides a platform for interconnecting and mounting electronic components. A PCB is a flat board made of non-conductive material, such as fiberglass or epoxy, with thin layers of conductive material, typically copper, laminated onto it.





# Robotics

**Robotics** is a multidisciplinary field that involves the design, construction, operation, and use of robots. Robots are programmable machines capable of carrying out tasks **autonomously** or **semi-autonomously**. They can be found in a wide range of applications, including manufacturing, healthcare, agriculture, defense, and entertainment.



**MANUFACTURING  
AUTOMATION**



**LOGISTICS AND  
WAREHOUSING**



**AGRICULTURAL  
AUTOMATION**



**SPACE  
EXPLORATION**



**DEFENSE AND  
SECURITY**



**CONSUMER  
APPLICATIONS**

Robotics combines elements of **Mechanical Engineering**, **Electrical Engineering**, **Computer Science**, and **Artificial Intelligence** to create intelligent machines that can perceive their environment, make decisions, and interact with humans and other machines. Advances in robotics technology have led to the development of robots with increasingly sophisticated capabilities, such as autonomous navigation, object manipulation, and human-robot collaboration.

## HUMANOID ROBOTS – 2024



# 2 DAYS WORKSHOP ON ROBOTICS

S.NO.	Topic	Duration
DAY – 1		
1.	Overview of this course	30 mins
2.	Introduction to Robotics	30 mins
3.	History and Evolution of Robotics	30 mins
4.	Fundamental Concepts and Components of Robotics	30 mins
5.	Types of Robots	30 mins
6.	Applications of Robotics across Industries	30 mins
Lunch Break		
7.	Overview of Robotic Software Development and Implementation	45 mins
8.	Exploring I/O Devices in Robotics	30 mins
9.	What is a sensor and what role do they serve in robotics?	60 mins
10.	Exploring Motor Roles and Types in Robotics	45 mins
DAY – 2		
1.	Introduction to Designing and Developing a Basic Robot	60 mins
2.	Create and build a sensor-based robot	60 mins
3.	Designing and creating a robot that follows a path	60 mins
Lunch Break		
4.	Intro Robot Communication and Networking	60 mins
5.	Intro to communication Protocols (UART, I2C, SPI....)	30 mins
6.	Designing and developing a wireless robot	60 mins
7.	Troubleshooting and Problem-Solving	30 mins

**2 Days  
Workshop**

**60 Students**  
**Per Head- Rs.600**

**80 Students**  
**Per Head- Rs.550**

**100 Students**  
**Per Head- Rs.500**

## Benefits:

- Benefit from expert guidance under skilled technical instructors.
- Experience hands-on learning through interactive demonstrations.
- Obtain industry-recognized certification upon successful completion.
- Explore domain-oriented applications examples to understand real-world implementations of Robotics technology.



# 3 DAYS WORKSHOP ON ROBOTICS

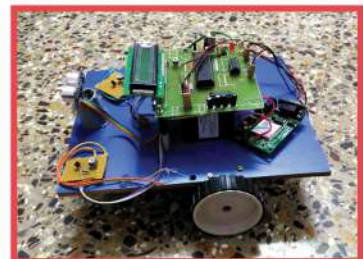
S.NO.	Topic	Duration
<b>DAY – 1</b>		
1.	Overview of this course	30 mins
2.	Introduction to Robotics	30 mins
3.	History and Evolution of Robotics	30 mins
4.	Fundamental Concepts and Components of Robotics	30 mins
5.	Types of Robots	30 mins
6.	Applications of Robotics across Industries	30 mins
<b>Lunch Break</b>		
7.	Overview of Robotic Software Development and Implementation	45 mins
8.	Exploring I/O Devices in Robotics	30 mins
9.	What is a sensor and what role do they serve in robotics?	60 mins
10.	Introduction to Different Types of Sensors	45 mins
<b>DAY – 2</b>		
1.	Exploring Motor Roles and Types in Robotics	60 mins
2.	Intro to Robot Assembly	60 mins
3.	Designing and creating a robot that follows a path	60 mins
<b>Lunch Break</b>		
4.	Designing and construction of an obstacle avoidance robot	90 mins
5.	Designing and construction a table top robot	90 mins
<b>DAY – 3</b>		
1.	Intro Robot Communication and Networking	90 mins
2.	Intro to Communication Protocols (UART, I2C, SPI...)	90 mins
<b>Lunch Break</b>		
3.	Designing of wireless controlled robot using android mobile	90 mins
4.	Troubleshooting and Problem-Solving	90 mins

**3 Days  
Workshop**

**60 Students**  
**Per Head- Rs.800**

**80 Students**  
**Per Head- Rs.650**

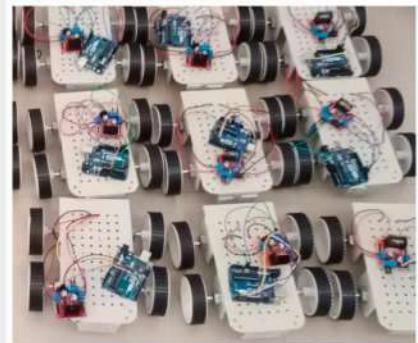
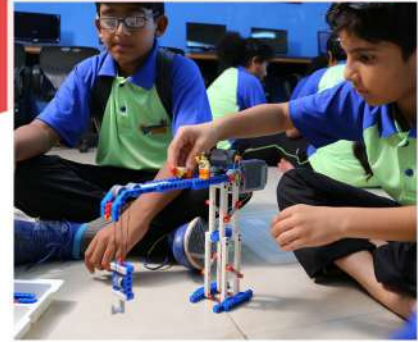
**100 Students**  
**Per Head- Rs.600**





# Pre-Requisites from Institution

- ✓ Depending on the workshop content, participants may need to bring their laptops or specified devices.
- ✓ Ensure participants have the necessary software installed or follow instructions for installation.
- ✓ Spacious hall with tailored seating and well-equipped laboratory provided.
- ✓ Availability of projector, screen, and microphone ensured.
- ✓ Access to high-speed internet facilitated throughout the workshop.
- ✓ Provision of at least three extension boards for device accommodation during hands-on practices.
- ✓ Two designated representatives for seamless coordination and assistance during the workshop.



<https://www.instagram.com/teckybot/>



<https://www.linkedin.com/company/teckybot/>



<https://www.facebook.com/teckybot/>



<https://www.youtube.com/@teckybot23>



## OUR PRESENCE @

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