teckybot™

Where future meets innovation

EMBEDDED SYSTEMS

WORKSHOP PROPOSAL

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

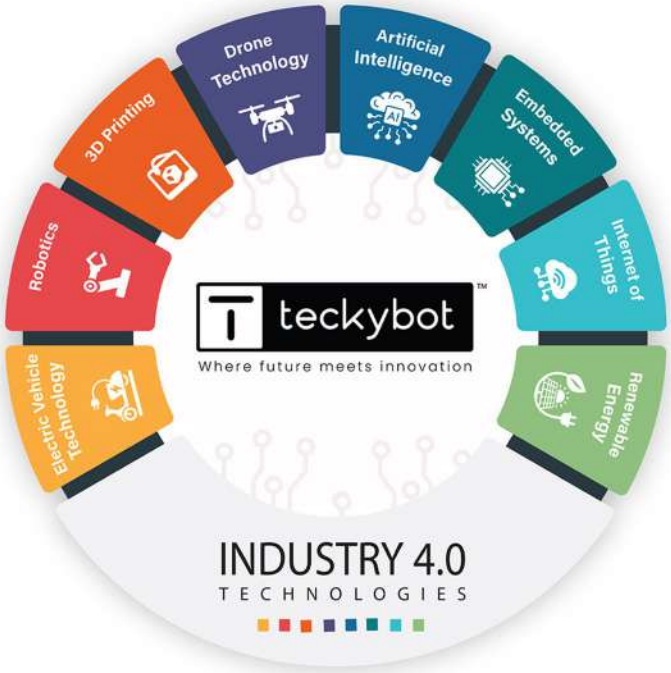
Empowering Tecky's with **INDUSTRY 4.0** Technologies where future meets Innovators

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**

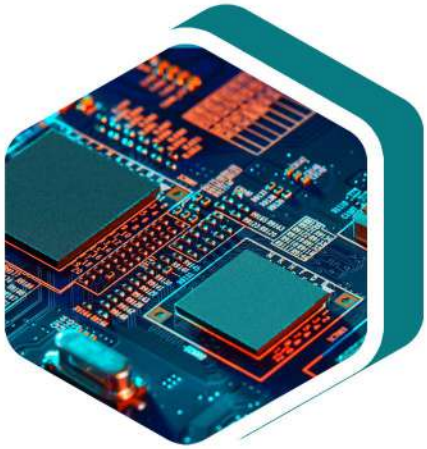


1. Artificial Intelligence Workshop

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

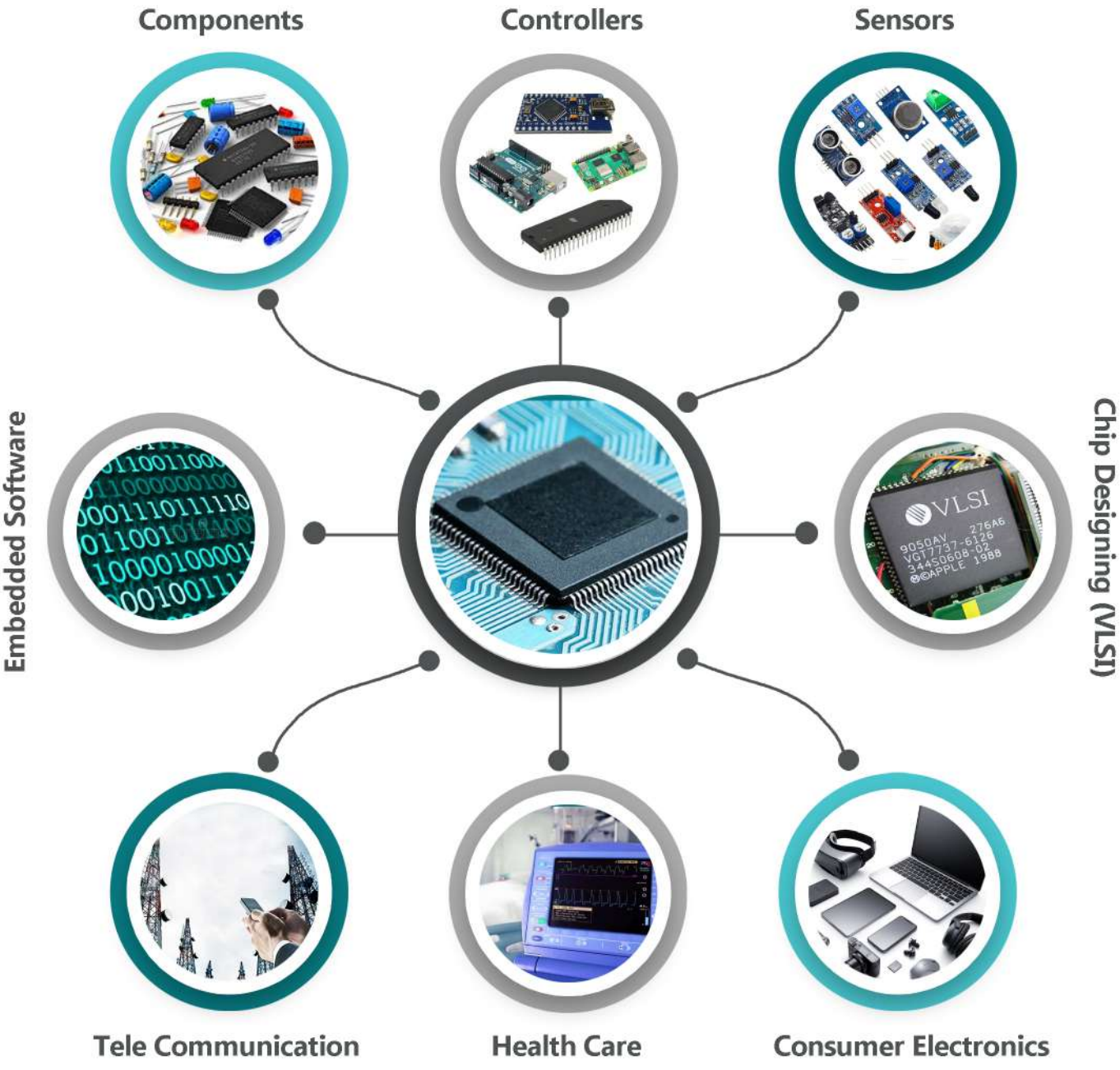
EV is one of the most promising and transformative technologies in the transportation sector. It offers a sustainable and eco-friendly alternative to traditional combustion engine vehicles, reducing emissions and dependence on fossil fuels. In "EV" workshop you can learn about the principles of electric 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.

Embedded Systems

Embedded Systems are specialized computing systems designed for specific functions within larger devices. They typically include a **microcontroller** or **microprocessor, memory, input/output** interfaces, and associated hardware and software. Commonly found in consumer electronics, automotive systems, medical devices, and industrial automation, examples include washing machine controllers, **automotive engine control units,** and **industrial PLCs**. Embedded systems play a vital role in controlling and monitoring device functions, ensuring reliability and user interaction. Development involves **coding** to control behavior, interfacing with **sensors** and **actuators**, and implementing communication protocols.



2 DAYS WORKSHOP ON EMBEDDED SYSTEMS

S.NO.	Topic	Duration
	DAY – 1	
1.	Overview of this course	30 mins
2.	Introduction to Embedded Systems	30 mins
3.	Importance and Applications of Embedded Systems	30 mins
4.	Fundamental Components of Embedded Systems	45 mins
5.	Embedded System Design Process	45 mins
	Lunch Break	
6.	Intro to I/O devices	45 mins
7.	Interfacing of I/O devices with arduino	45 mins
8.	Getting Started with PWM signal	45 mins
9.	Exploring sensors in Embedded Systems	45 mins
	DAY – 2	
1.	Enabling connectivity and communication between controller and sensors	45 mins
2.	Converting Analog Signals for Digital Processing	45 mins
3.	Introduction to LCD module	30 mins
4.	Interfacing of LCD module	60 mins
	Lunch Break	
5.	Introduction to communication protocols (UART, I2C, SPI....)	30 mins
6.	Difference between Serial and Parallel communication	30 mins
7.	Introduction to Wireless Technologies	30 mins
8.	Bluetooth technology integration with an Arduino controller	60 mins
9.	Troubleshooting and Problem-Solving	30 mins

2 Days Workshop	60 Students	80 Students	100 Students
	Per Head- Rs.600	Per Head- Rs.550	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 Embedded Systems technology.

3 DAYS WORKSHOP ON EMBEDDED SYSTEMS

S.NO.	Topic	Duration
	DAY – 1	
1.	Overview of this course	30 mins
2.	Introduction to Embedded Systems	30 mins
3.	Importance and Applications of Embedded Systems	30 mins
4.	Fundamental Components of Embedded Systems	45 mins
5.	Embedded System Design Process	45 mins
	Lunch Break	
6.	Exploring I/O Devices	60 mins
7.	Interfacing of I/O devices	60 mins
8.	Getting Started with PWM signal	60 mins
	DAY – 2	
1.	Enabling connectivity and communication between controller and sensors	45 mins
2.	Interfacing of digital sensors	45 mins
3.	Interfacing of analog sensors	45 mins
4.	Introduction to Ultrasonic sensor	45 mins
	Lunch Break	
5.	Interfacing of DHT11 sensor	60 mins
6.	Exploring Motors and Types	60 mins
7.	Interfacing of motor drivers	60 mins
	DAY – 3	
1.	Introduction to LCD module	60 mins
2.	Intro to communication Protocols (UART, I2C, SPI....)	60 mins
3.	Exploring wireless communication and types	60 mins
	Lunch Break	
4.	Interfacing of HC05 Bluetooth module	120 mins
5.	Troubleshooting and Problem-Solving	60 mins

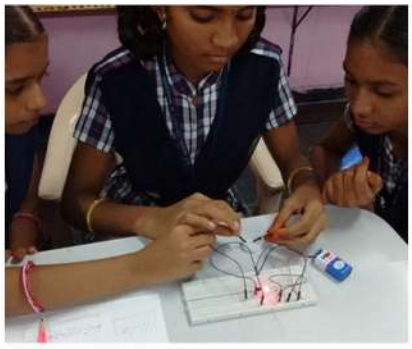
3 Days Workshop	60 Students	80 Students	100 Students
	Per Head- Rs.800	**Per Head- Rs.650**	**Per Head- Rs.600**

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.





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OUR PRESENCE @

Visakhapatnam
ā-Hub (C.O),
AU Incubation Center,
Visakhapatnam,
Ph: 888861 22887

Vizianagaram
Branch office (B.O),
Vizianagaram,
Ph:: 7799911212

Rajahmundry
kokabhaskaramma
nagar, Rajahmundry,
Ph: 7799911213

Vijayawada
Branch office (B.O),
Vijayawada
Ph:: 7799911214

Nellore
Branch office (B.O),
Nellore,
Ph: 7799911215

Hyderabad
6th Floor, T-Hub (C.O),
Hyderabad,
Telangana,
Ph: 8886122886