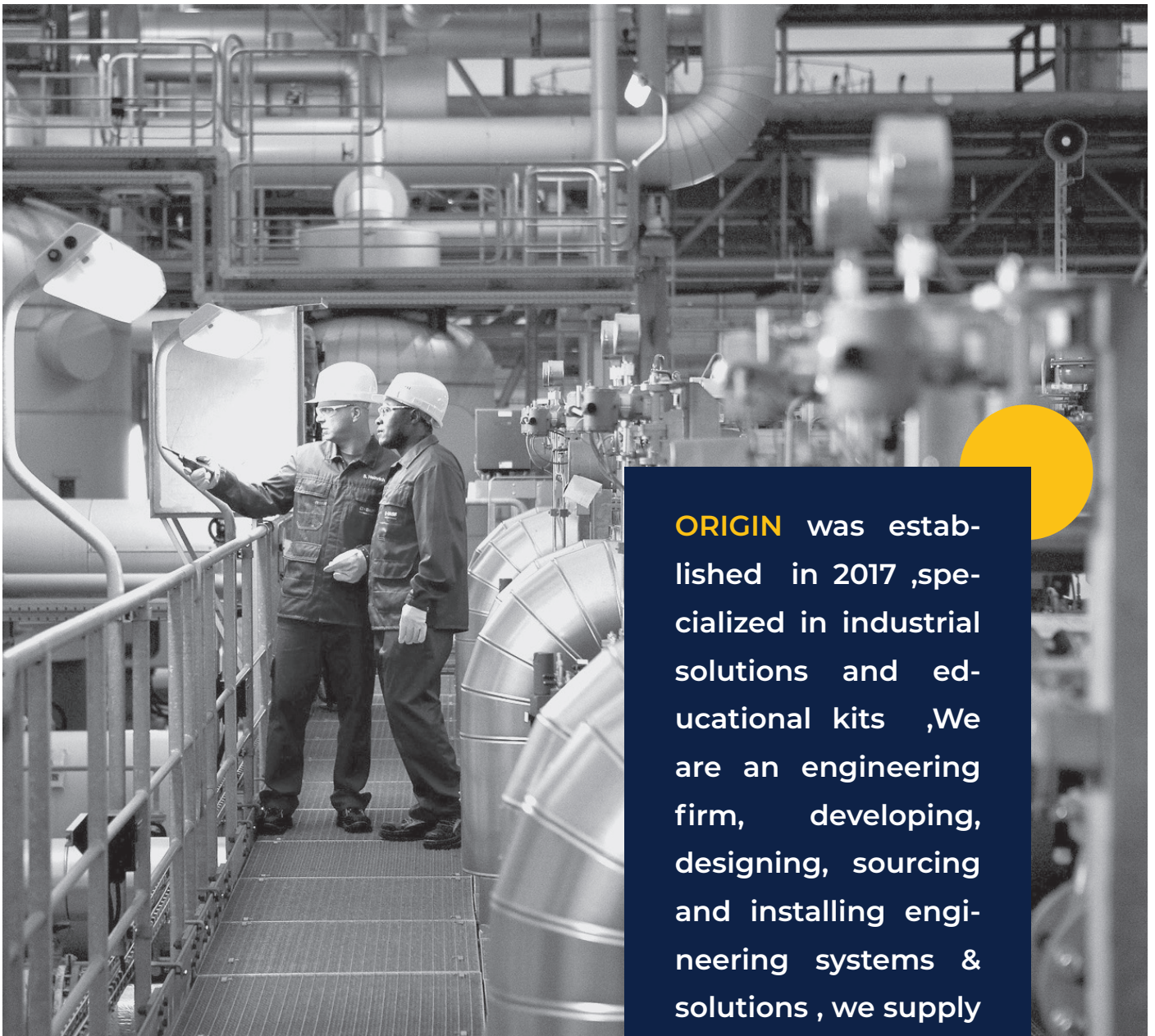


COMMUNICATION AND COMPUTER DEPARTEMENT

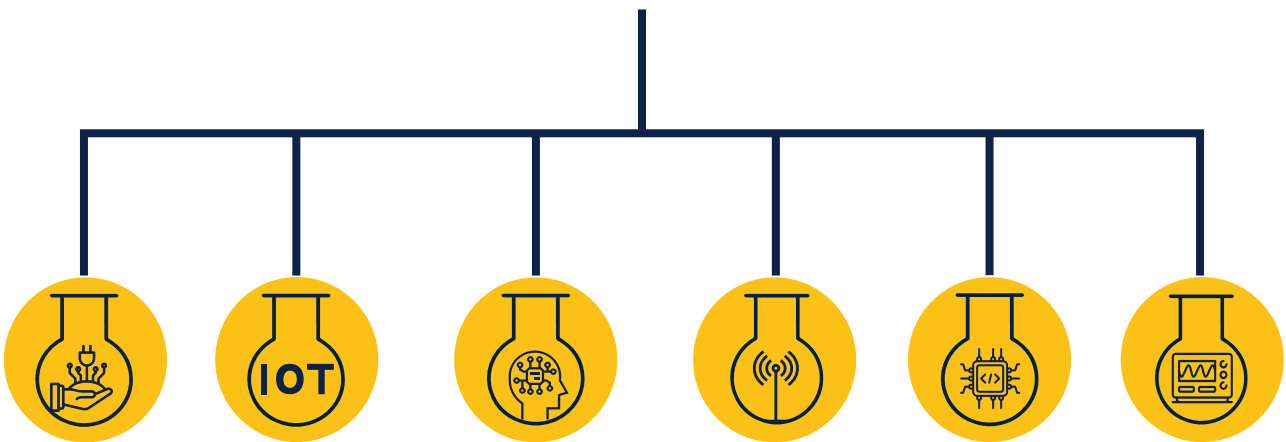
Origin is a leading company in educational labs manufacturing engineering training units to enhance and improve students skills and minimize the gap between industry and education by using industrial background.

About Us



ORIGIN was established in 2017 ,specialized in industrial solutions and educational kits ,We are an engineering firm, developing, designing, sourcing and installing engineering systems & solutions , we supply worldwide premium brands globally to ensure sustainable productivity, high quality & reliability.

Communication Department Labs



A : Power Electronics Lab.

- 1- AC to DC converter training unit (EP-31).
- 2- Self-commutated converter circuits training unit (EP-32).





B : IOT Laboratory.

- 1- IOT training unit (CIOT-41).
- 2- IOT trainer Kit Using Cortex M4 training unit (CIOT-42).
- 3- IOT smart home training unit (CIOT-43).
- 4- IOT smart factory training unit (CIOT-44).





C : AI Laboratory.

- 1- AI training Unit (CAI-51).
- 2- Intelligent mobile robot training unit (CAI-52).
- 3- Inverted pendulum training unit (CAI-53).
- 4- AI & IOT training unit (CAI-54).



E : Embedded Laboratory.

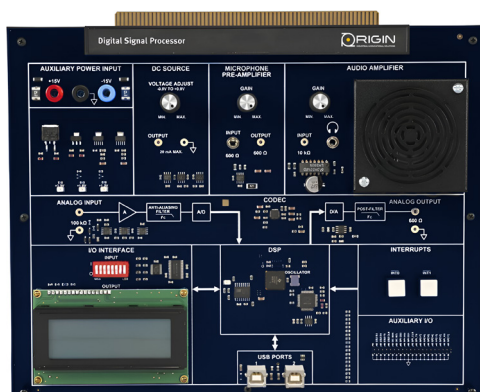
- 1- Main embedded training unit (EMP-31).
- 2- PIC education training unit (EMP-32).
- 3- AVR education training unit (EMP-33).
- 4- ARM education training unit (EMP-34).
- 5- Arduino training unit (EMP-35).
- 6- Raspberry-pi training unit (EMP-36).
- 7- Model-based education training unit (EMP-37).
- 8- Embedded sensors training unit (EMP-38).





D : Communication Laboratory.

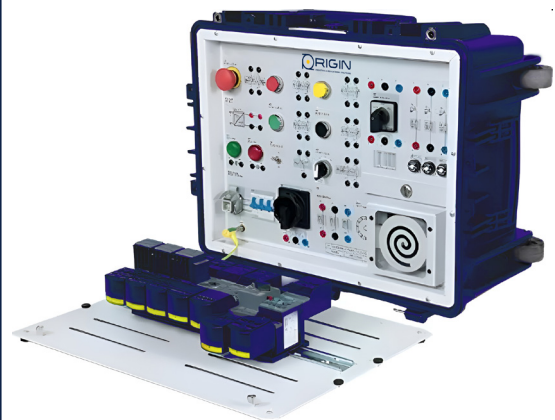
- 1- Digital communication training unit (CC-21).
- 2- Analog communication training unit (CC-22).
- 3- Advanced digital communication training unit (CC-23).
- 4-Digital signal processing training unit (CC-24).
- 5- Fiber optics training unit (CC-25).
- 6- DC network training unit (CC-26).
- 7- Field effect transistor training unit (CC-27).





F : Electronics Laboratory.

- 1- DC package board training unit (CE-11).
- 2- AC package board training unit (CE-12).
- 3- Transistor package training unit (CE-13).
- 4- Digital circuit package training unit (CE-14).
- 5- Transducer package training unit (CE-15).



Electronics Road Map



Dc & AC training Kit

Operational Amplifiers: Amplification, filtering, and signal conditioning. Analog Signal Processing: Filtering, modulation, and demodulation. Circuit Analysis: Understanding analog signals and their processing. Hands-On Projects: Audio amplifiers, signal filters, oscillators.



Micro-controller Kit

Microcontroller Basics: Programming, interfacing with sensors and actuators. Embedded Systems: Developing and testing embedded applications. Programming: Writing code for microcontrollers, understanding I/O operations. Hands-On Projects: Simple robotics, automation systems, sensor data logging.



Digital Signal processing Kit

Signal Analysis: Understanding signal types, Fourier transforms. Filter Design: Designing and implementing filters. DSP Algorithms: Implementing algorithms for signal processing. Hands-On Projects: Audio processing, image processing, real-time signal analysis.



Basic electronics kit

Basic Circuit Theory: Ohm's Law, Kirchhoff's Laws. Component Functionality: Understanding and using common electronic components. Circuit Design: Building simple circuits, analyzing voltage, current, and resistance. Hands-On Projects: LED blinking circuits, transistor amplifiers, simple switches.



Digital Circuit Kit

Logic Gates and Boolean Algebra: AND, OR, NOT, NAND, NOR, XOR, XNOR. Sequential and Combinational Logic: Flip-flops, counters registers. Digital Circuit Design: Building and analyzing digital circuits. Hands-On Projects: Digital counters, binary to decimal converters, simple memory units.

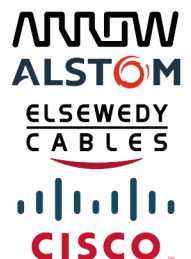


Analog & Digital Kit

Analog and Digital Communication: AM, FM, PM, digital modulation techniques. Signal Processing: Modulation, demodulation, and error correction. Communication Protocols: Understanding and implementing protocols like UART, SPI, I2C. Hands-On Projects: Building simple communication systems, signal modulation and demodulation experiments.



Design electronic systems engineer
PCB engineer
Digital IC Engineer
Application Engineer
Software testing Engineer



Embedded Road Map



Arduino Kit

An Arduino kit is designed to provide everything needed to get started with Arduino-based projects and experiments. Arduino is a popular open-source electronics platform based on easy-to-use hardware and software.



Arm Training Kit

An arm training kit typically focuses on teaching the fundamentals of robotic arms, including their design, control, and applications. Such a kit is useful for learning about various types of robotic arms, from basic educational models to more advanced industrial versions.



Model based design Kit

A Model-Based Design (MBD) kit is aimed at providing tools and resources for designing, simulating, and implementing systems using a model-based approach. MBD involves creating and working with mathematical models to design and analyze complex systems before physical implementation.



Main Embedded System Kit

A main embedded system kit is designed to provide a comprehensive introduction to embedded systems, including their design, development, and implementation. Such a kit typically includes various components and educational materials to help users understand how embedded systems work and how to develop applications for them.



AVR Training Kit

An AVR training kit is designed to provide a comprehensive introduction to AVR microcontrollers, which are popular for their ease of use and robust performance in embedded systems. AVR microcontrollers, developed by Atmel (now part of Microchip Technology), are widely used in various applications due to their versatility and powerful features.



Raspberry-pi Kit

A Raspberry Pi kit is designed to provide a complete setup for experimenting with and learning about Raspberry Pi, a popular single-board computer used in a wide range of projects and applications.



Embedded systems engineer
Software Engineer
Model based Design Engineer
Application Engineer
Software testing Engineer



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