

ARMtronix TECHNOLOGIES LLP.

Hubballi, India.

Our Journey so far....

Nov. 2015:
Establishment of
ARMTRONIX

Nov 2017
Enhanced to
ARMTRONIX
TECHNOLOGIES LLP.

Our domain expertise

1. Industrial automation / IIoT (Industry 4.0) own products, custom design.
2. Building automation products.
3. Automotive electronics design service.
4. Development/prototyping of electromechanical products

Company Profile



- ARMtronix Technologies is a more than three year old company, started in Nov-2015.
- We are a small group of young, dynamic, multi-disciplinary engineers capable of handling projects from design to production.
- We wish to make lucrative and user friendly products as well as provide product development services and solutions for Industrial automation/products, Building Automation and automotive technologies.
- For any queries and requirements, please contact:

| | | |
|-----------------------|-----------------|--------------------------|
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The Team-core members

Naren Nayak: Naren holds a M.Tech (Mechatronics) from Central Institute of Tool Design, Hyderabad and B.Tech (Mechatronics) from Manipal Institute of Technology. He has previously worked for i-Robotics, Mysuru and had been recognized as employee of the year for his remarkable performance. He founded Armtronix in 2015.

Hemanth M Surakod: Hemanth joined Armtronix in September 2017 as a **core team member/partner**. Hemanth has previously worked in various companies like HCL Technologies. He has worked in core electronics domain.

Our Vision and Mission



VISION:

To create simplified technological products and services for Industries and Consumers

MISSION:

Helping customers integrate new technology which is simple and efficient for existing and upcoming system.

USP and GOAL

Affordability

Competent and problem
solving

Visionary products

Our Success Stories

- We have developed our own products for Building automation applications and Industrial automation application like “Pick to light System” and many other.
- We have successfully Industry 4.0 projects based energy monitoring system, Water level monitoring system and RO plant monitoring system by using our own products.
- In past three years we have also dealt with many customers in Industrial and Building Automation. We have been providing them product design services.

Services

Industrial

We provide our extensive product design and development services for industries by providing embedded system based low cost solutions as per the requirements of the client

Building Automation

We provide custom product design, development and manufacturing services to our home automation solution provider clients . We are also their hardware design and production house.

Automotive


We also work on the product design and development of Automotive products to be used in four wheeler vehicles.

Our Expertise



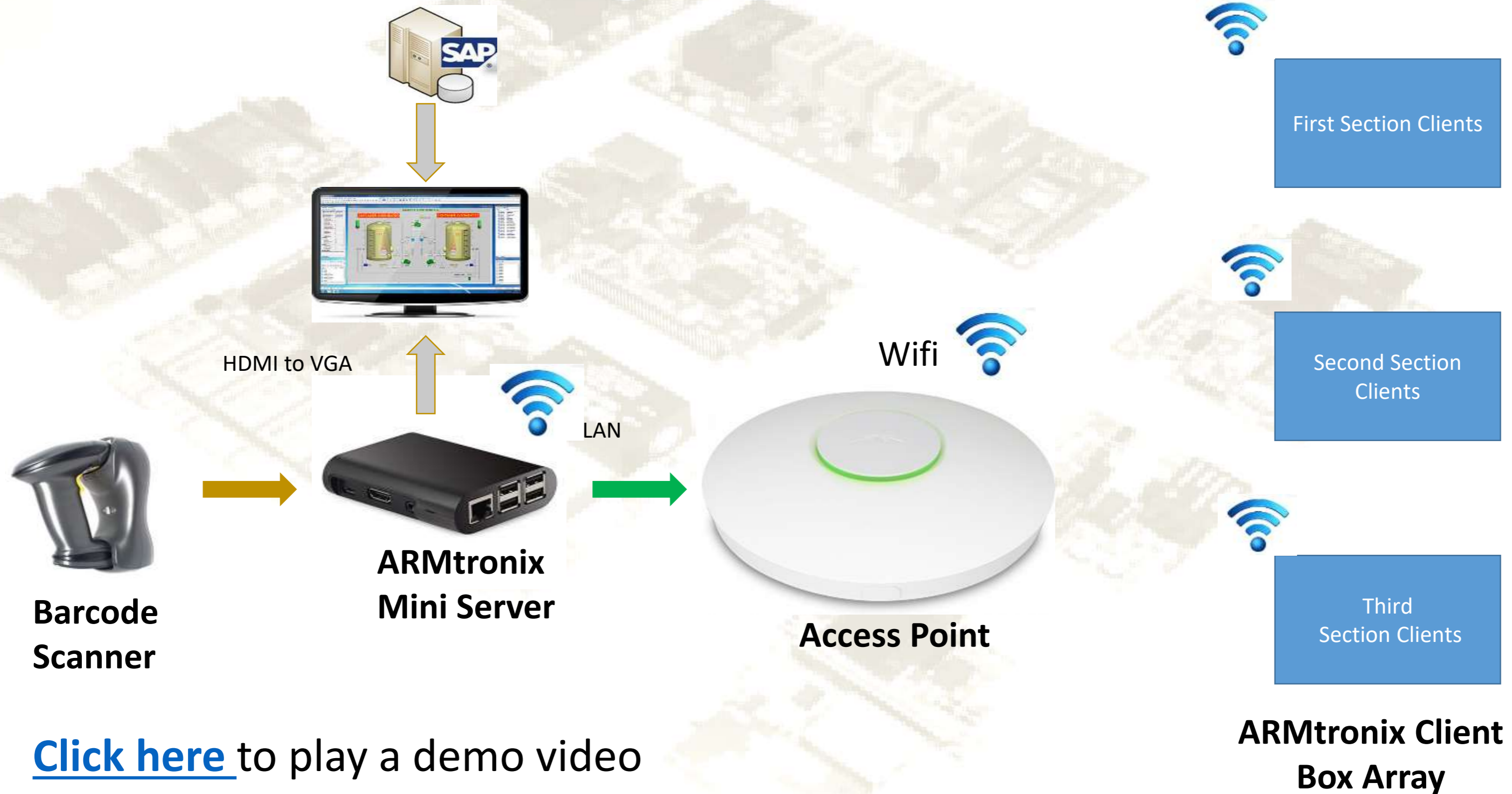
Customers

- We have developed an Industry 4.0 system or a **leading automotive manufacturing industry**.
- We have developed an Industry 4.0 product for a one of the **largest hand and power tools manufacturing industry**.
- We have developed CNC m/c monitoring product based on Industrial 4.0 for a **CNC machine** distributor.
- We are supplying our product to an **hospitality company** for their remote monitoring and controlling.
- We are working with an **automotive company** for electronics design service.
- We have designed and developed various building automation customized products for numerous building automation integration companies. Out of which, most of them have gone through the BIS and CE certification.
- We have worked on an Industrial IoT product for a **manufacturing industry** outside India.
- **LoRa** based industrial energy meter monitoring.
- **LoRa** based industrial cold-storage monitoring.

The background of the slide is a light beige color with a faint, repeating pattern of ARM microprocessors. The processors are shown from an isometric perspective, with various components like the chip, capacitors, and pins visible. The text "Projects - Case Studies" is overlaid in a large, bold, red font.

Projects - Case Studies

Industrial: Pick to Light System



[Click here](#) to play a demo video

Success Story - 1

•**The Customer:** *Tata Motors, Dharwad.*

Tata Motors' Dharwad plant is a small commercial vehicles manufacturing plant. With minimal per cent of the manufacturing process being automated, the plant has built-in flexibilities to assemble large numbers and different variants in mixed mode production.

•**The Challenge:**

Picking up appropriate materials from inventory rack while handling mixed mode production in same assembly line.

•**The Solution:**

By implementing our *Pick-to-Light* system.

•**The Theme:**

Pick-to-Light is a type of order-fulfillment technology designed using our own IIoT products to improve picking accuracy and efficiency, while simultaneously lowering your labor costs. Pick-to-light is paperless, it carries alphanumeric display and button with inbuilt lamp at storage locations, to guide a person in light-aided manual picking and refilling.

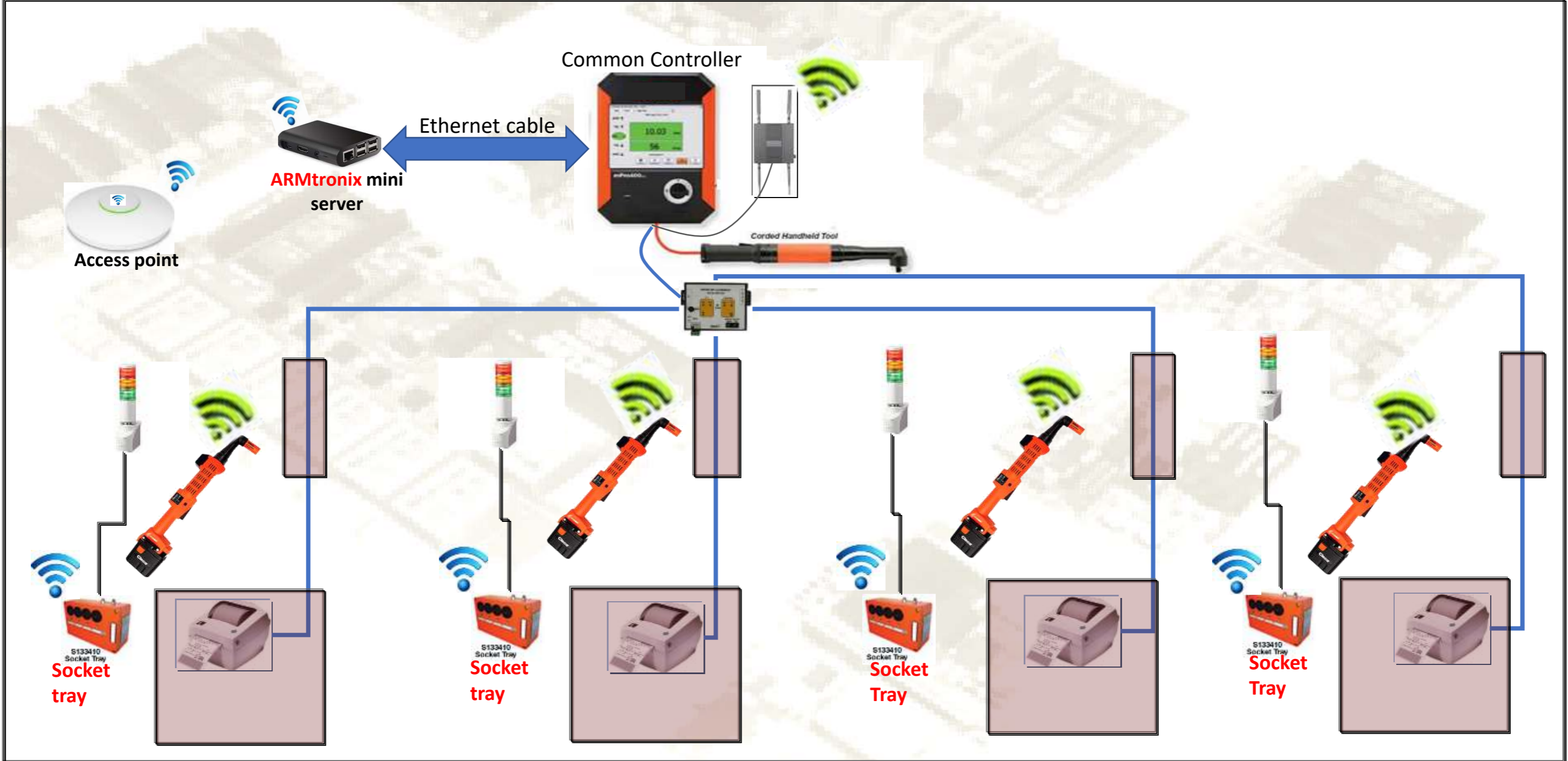
•**The Implementation:**

This system is semi automated and implemented using mixed technologies like wired and wireless. Initially, the system was implemented with wireless technology. As there were lot of parts to be brought under this system in small area of real estate, we switched to mixed technology.

•**Results:**

- Reduced picking material time and increased productivity.
- Reduced human error while picking with respect to material and its quantity and increased efficiency.
- System can be integrated with ERP.

Industrial: Socket Tray Monitoring



Success Story - 2

- **The Customer:** *Apex Tools, Pune.*

Apex tool Group is one of the largest manufacturers of professional hand and power tools in the world, serving the automobile service and assembly industry, aerospace industry, EMS, construction and serious DIY markets..

- **The Challenge:**

Detecting the picked socket from socket tray and setting appropriate torque in torque wrench with respect to picked socket.

- **The Solution:**

By implementing wireless system which detects the picked socket and send information to central server, to set the appropriate torque.

- **The Theme:**

Socket Tray Monitoring is a type of torque selection and validation technology designed using our own IIoT products to minimize errors in setting appropriate torque automatically based on detecting picked socket from tray. Even if a worker is not aware about the torque setting for particular sockets, still he/she will be able to use this system to tighten the nuts/bolts to the desired torque level.

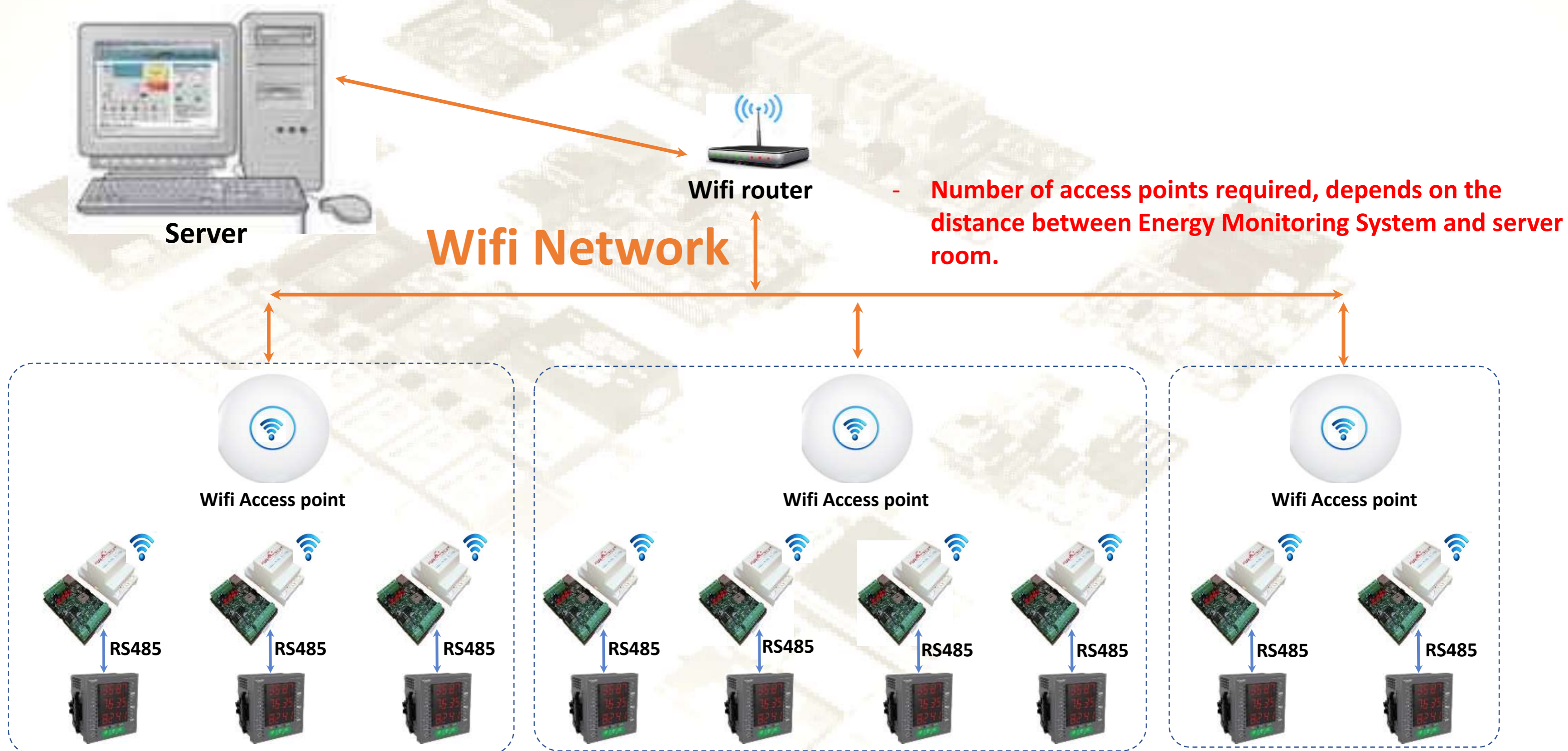
- **The Implementation:**

The automation system was implemented by integrating our system with Siemens PLC. At a later stage the PLC was removed and complete automation system was implemented with our hardware units to make it a low cost automation solution.

- **Results:**

- Reduced error in torque setting. Hence, reduction in failure due to loose or over tightening of nuts/bolts.
- Improves the tool efficiency and lifetime due to proper usage.
- As it is wireless system, very minimal wiring was done and easily expandable, movable and replaceable.

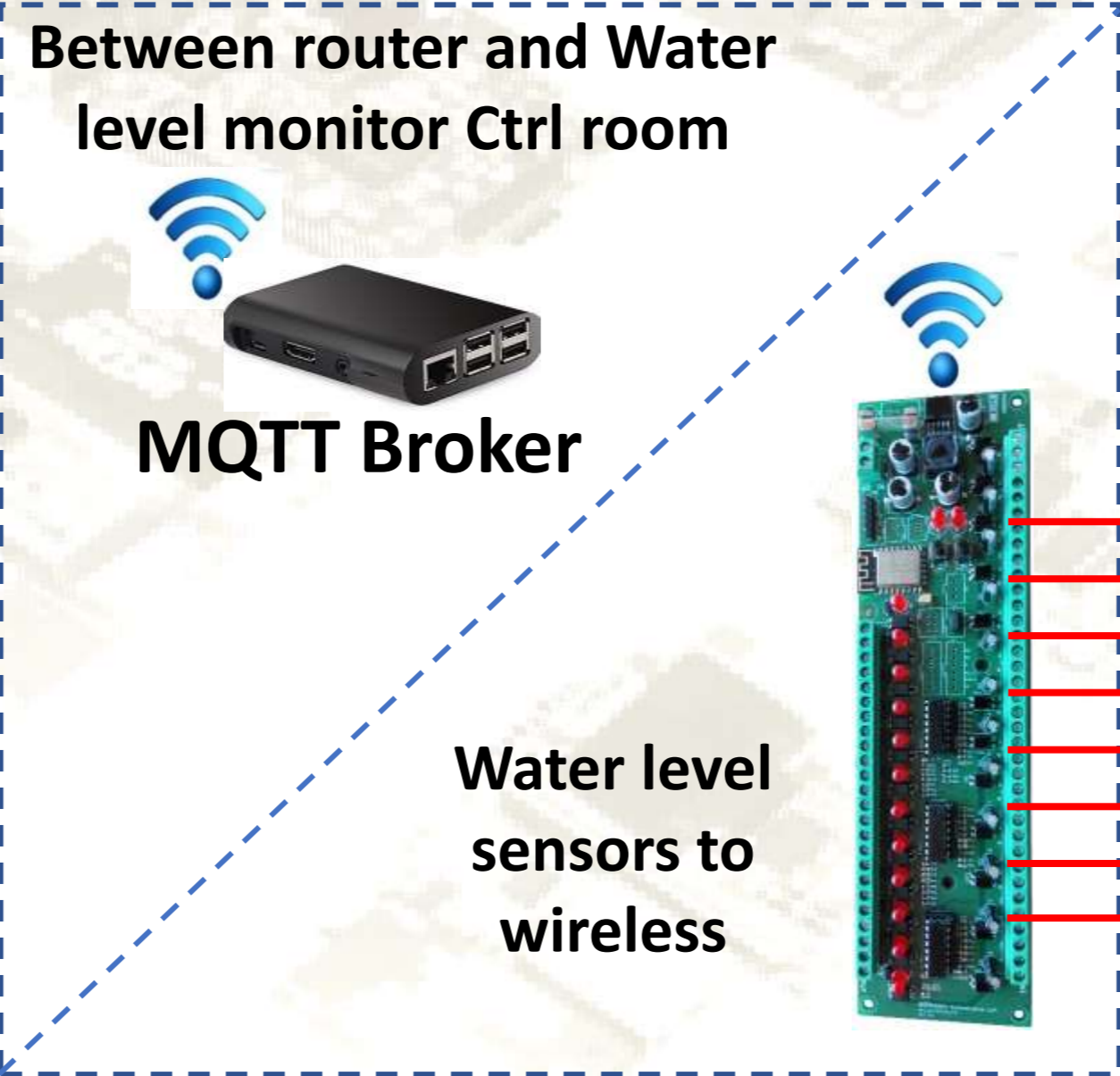
Industrial: Energy Monitoring



Industrial: Water Level Monitor System



Access point



Overhead Water tank with sensors



Third party software



Server

Success Story - 3

•**The Customer:** (CIPD – Centre for Innovation & Product Development) *KLE Tech, Hubballi.*

Formerly known as BVBCET – B. V. Bhoomaraddi College of Engineering & Technology. Has a department know as CIPD, for research and development of innovative product. We are one of the solution provider for few of their projects.

•**The Challenge:** Smart Campus (Energy and Water consumption monitoring & controlling system)

Campus has multiple buildings and maintenance team wish to know the consumption and wastage of energy and water in buildings individually. Also, they wish to control the consumption to reduce or stop wastage.

•**The Solution:**

Implemented wireless system, reduces the wastage using inputs for sensors and software intelligence.

•**The Theme:**

Smart Campus is an order-fulfillment project developed using our own IIoT products and integrated to monitor and reduce the energy and water consumption.

•**The Implementation:**

- Water level is being monitored by float switches and ultra sonic sensor with RS485 consumption.
- Energy consumption is being monitored by using industrial energy meter via MODBUS communication.
- Both the data are available in centralized server via wireless communication through cloud.

• **Results:**

- Reduction in energy and water consumption, by monitoring and controlling wastage. By doing so, we can save energy and water and avoid scarcity of water.

Industrial: Elevator Monitor & Control

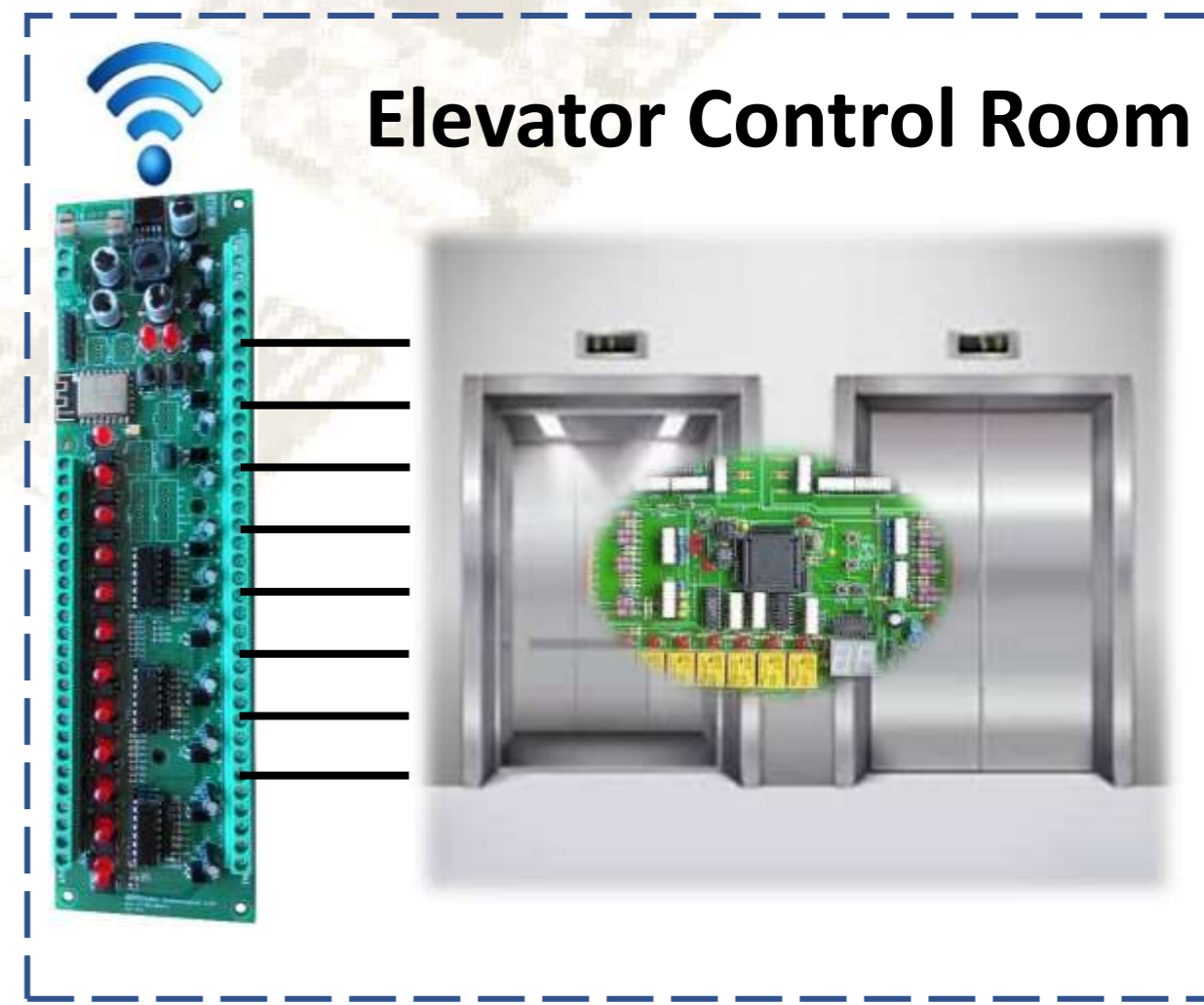


Existing/New
Wifi Router

Between router and LIFT
Ctrl room



MQTT Broker



Elevator Control Room



Smart Phone

Success Story - 4

- **The Customer:** *Brisk Elevators, Bengaluru.*

Brisk Elevators provides solution and designs elevator system that fit every specific requirement. Brisk elevators & escalators Pvt. Ltd. is now global partner of GMV Italy.

- **The Challenge:** Smart Elevator controller.

Monitoring and controlling of elevator using mobile/tablet application.

- **The Solution:**

Implemented wireless system, which monitors the position of elevator and interacts with mobile app to update the status. Also, elevator is being controlled via mobile app and physical switches available at elevators.

- **The Theme:**

Smart Elevator controller is an order-fulfillment project developed using our own IIoT product and is integrated to monitor and control elevators from any corner of the building via customized android mobile application.

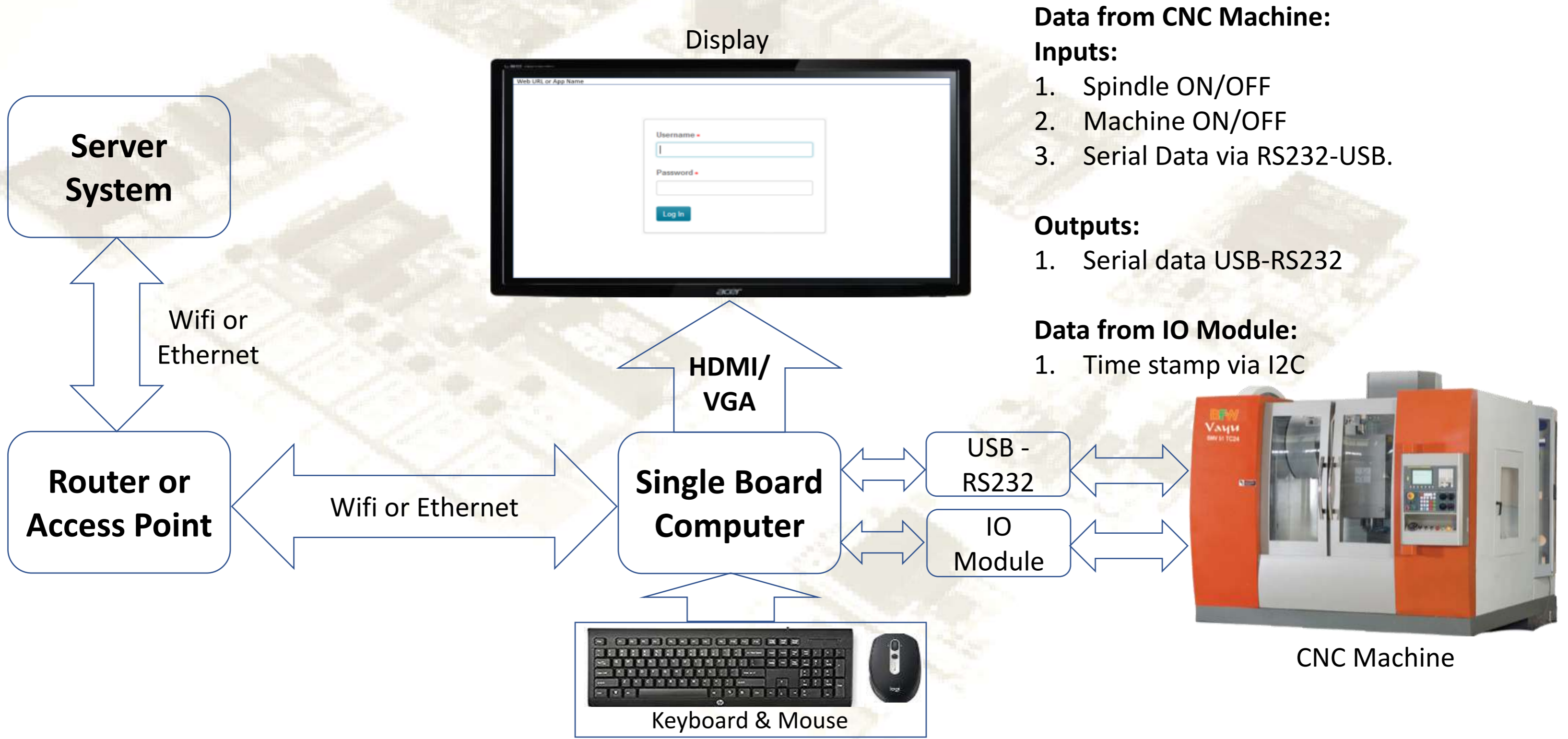
- **The Implementation:**

Elevator is being monitored from its Seven segment LED display. The data is sent to mobile app through wireless medium in secure mode using global standard MQTT protocol.

- **Results:**

- No need to wait and watch for the elevator to arrive on your floor, instead you can continue your work at hand and get update on mobile app after sending command for the elevator to come to your floor.

Industrial: CNC Machine Monitoring



Data from CNC Machine:

Inputs:

- 1. Spindle ON/OFF
- 2. Machine ON/OFF
- 3. Serial Data via RS232-USB.

Outputs:

- 1. Serial data USB-RS232

Data from IO Module:

- 1. Time stamp via I2C

Success Story - 5

•**The Customer:** *Upanal CNC Solutions Pvt. Ltd., Bengaluru.*

Does reconditioning of CNC Machines & precised sub-assemblies like Ball Screw, Linear Motion Guide Ways. Are channel partner for BFW CNC machines.

•**The Challenge:** CNC Machine programming and monitoring.

Programming CNC machine without using desktop and monitoring machine remotely.

•**The Solution:**

Developed a product with 14" LCD which communicates with CNC machine via serial port, so that the device can read and write programs to & from machine. Also device can store programs in its internal memory for editing. It can also monitor machine status by reading 4 signal from machine and same can be connected to cloud for remote monitoring(of machine ON/OFF and Spindle ON/OFF).

•**The Theme:**

Single device with multiple features like CNC programming, reading machine status, and remote monitoring.

•**The Implementation:**

Developed customized product for the application.

• **Results:**

➤ CNC programming, reading machine status, and remote monitoring.



Internal Products

Industrial Automation

- **Industrial automation boards** for industrial automation application use .
These are easy to use, modify, integrate and reasonably priced.

Wifi (Industry 4.0) DIO Products



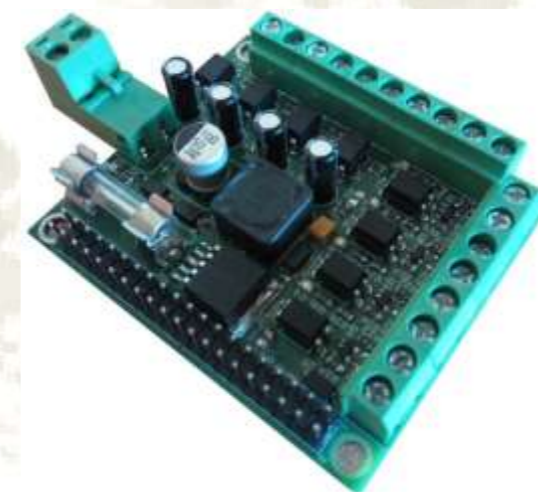
Retro to IIoT



Wifi Industrial Button



[Click here for IA products catalogue](#)



Rpi Isolated GPIO Board



Wifi - RS485 - LoRa

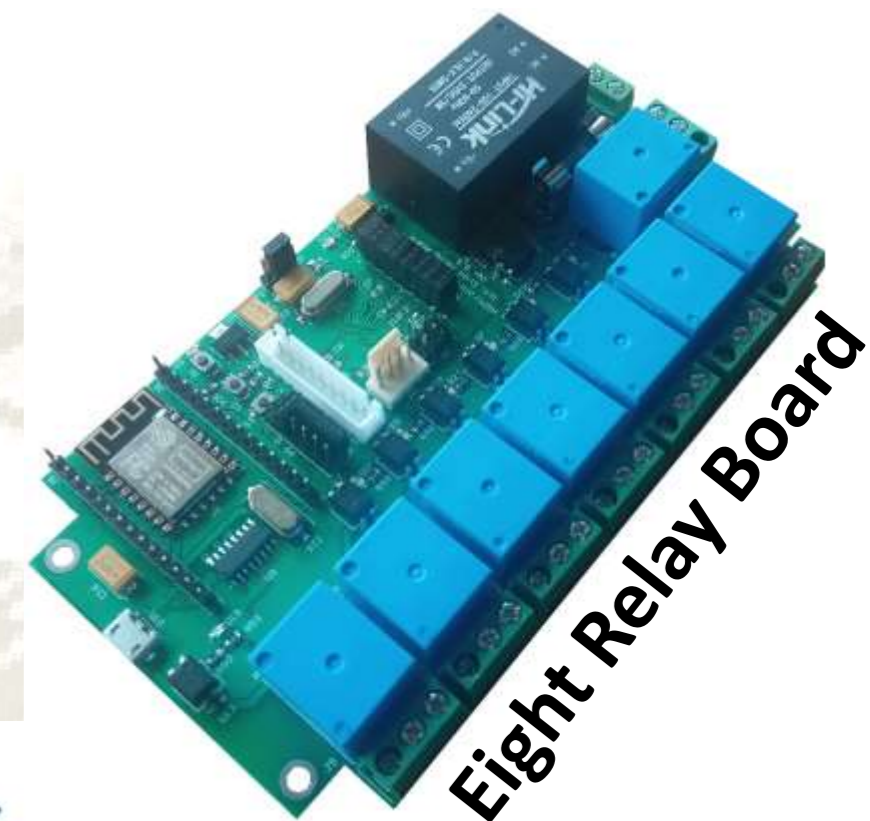
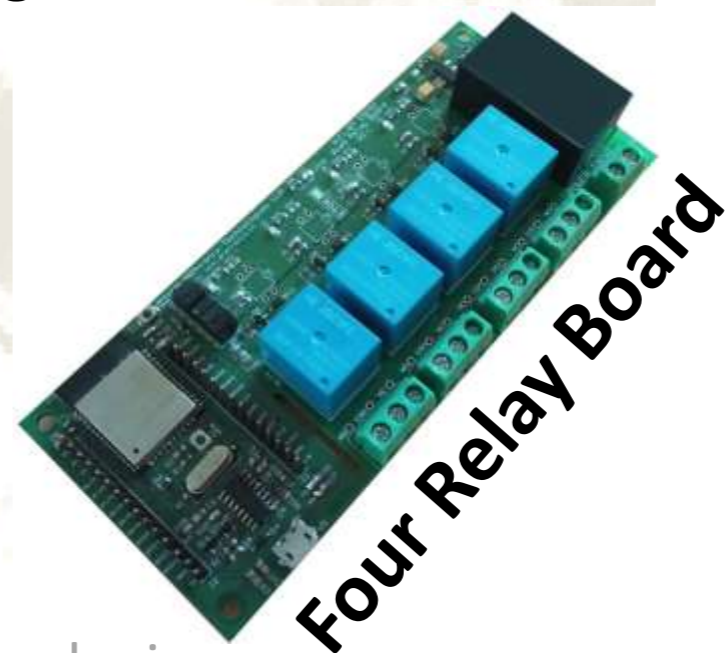
Building Automation

- **Home automation boards** for professional use as well as for the maker. These are easy to use, modify, integrate and reasonably priced.

Wifi Switches and Dimmers



[Click here](#) for BA products catalogue



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Thank You