



**Krishworks**  
Technology Innovations

# IoT Deck

# About Us



15+ years of  
experience in the  
corporate world



Specializing in  
developing IoT  
devices, Rapid  
Prototyping, Mobile  
Apps, Web Apps,  
LMS, CRM and ERP



Krishworks has  
delivered **Multiple**  
**Software**  
**Applications to over**  
**300K users across 7**  
**countries in less**  
**than a decade**





# Leadership



**Kaushik Mazumdar**

**Director**

Product and Software Development



**Subhajit Roy**

**Director**

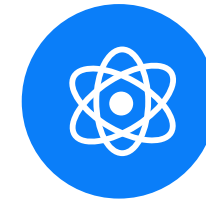
Embedded Systems and IoT Development



**Gargi Mazumdar**

**Director**

Business Development and  
Operations



## Vision

To create impactful and sustainable solutions for the world by challenging the limits of existing technological innovation.



## Mission

Become a profitable organization that has acquired the expertise to indigenously Research, Design and Manufacture complex State of the Art technology solutions, and being able to give back to the society and nation through various social means.



# Our Growth



2015

## Krishworks Technology Innovations

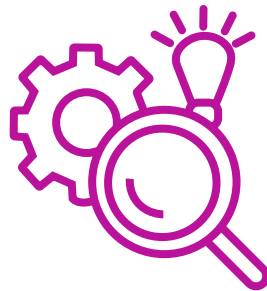
Was founded to build IOT prototypes, full-scale solutions, and SaaS software (APAC)



2015-2016

## Research and development of Gurukul software

A team of 30+ volunteers across India helped with research and development of Gurukul software - as part of Xprize submission. The software supported English and Swahili language, with deployments intended for Tanzania.



2014

## Inception of Team Krishna

A team of volunteers to compete for the **Global Learning Xprize**, an organisation with philanthropists like Elon Musk, Ratan Tata, and James Cameron on its board. The goal was to build software that helps less privileged children learn to read, write, and communicate. Ended up in the **top 20 out of 198 global teams**, setting the base for Krishworks



2021

## New office in Bangalore



2017-2018

## Incubations

Sigma Accelerators, IIM Calcutta Innovation Park, Indian School of Business DLabs



2017

## Upskilling and empowering rural teachers

School onboarding starts: To help kids in rural areas read, write, and communicate in English by upskilling rural teachers and empowering them with technology



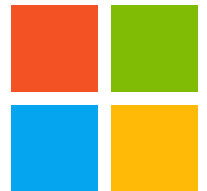
2022

Expanding to the global market (EMEA, North America, Australia)



2023

New office in Kolkata, Microsoft Azure Partner



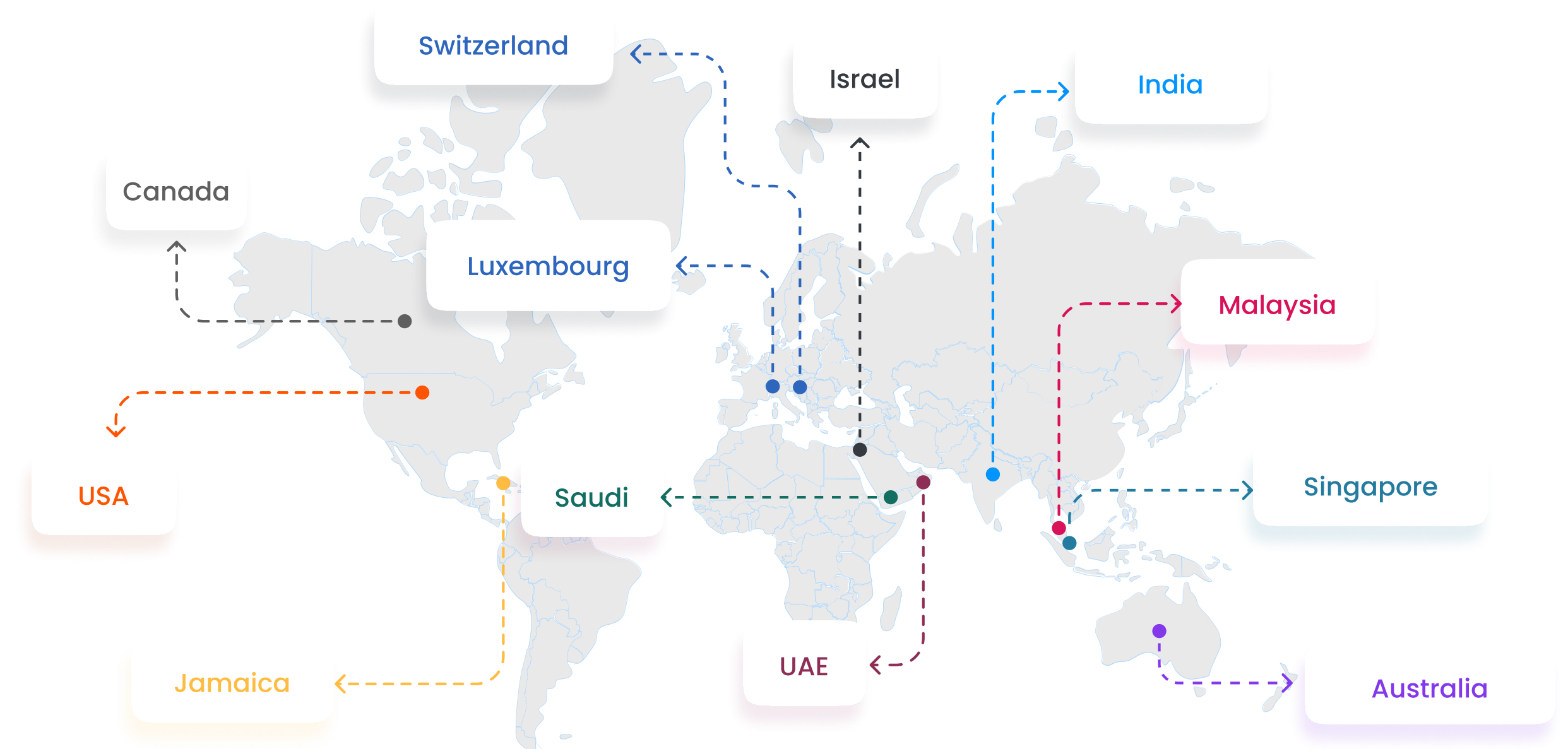
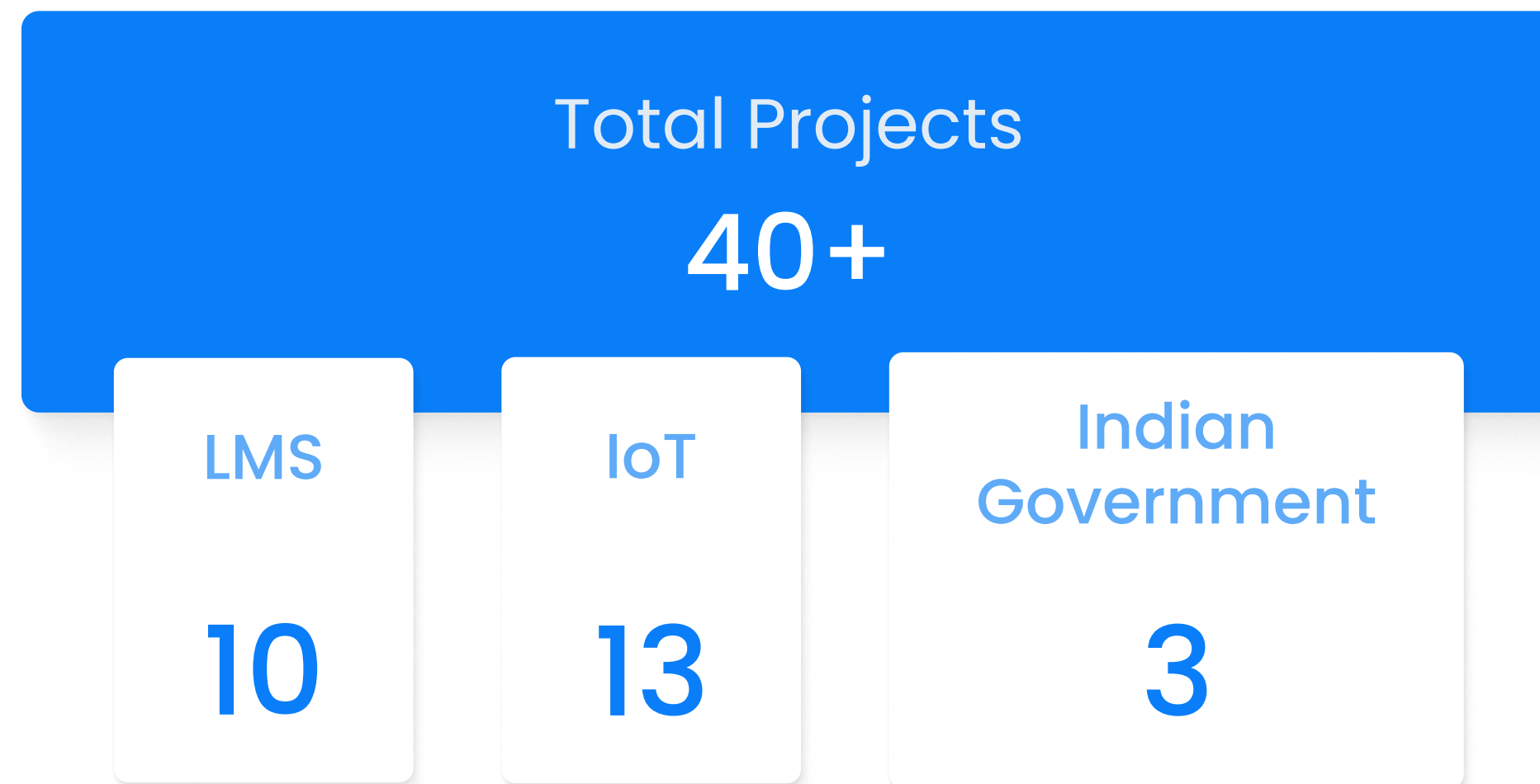
2024

GCP ISV Partner

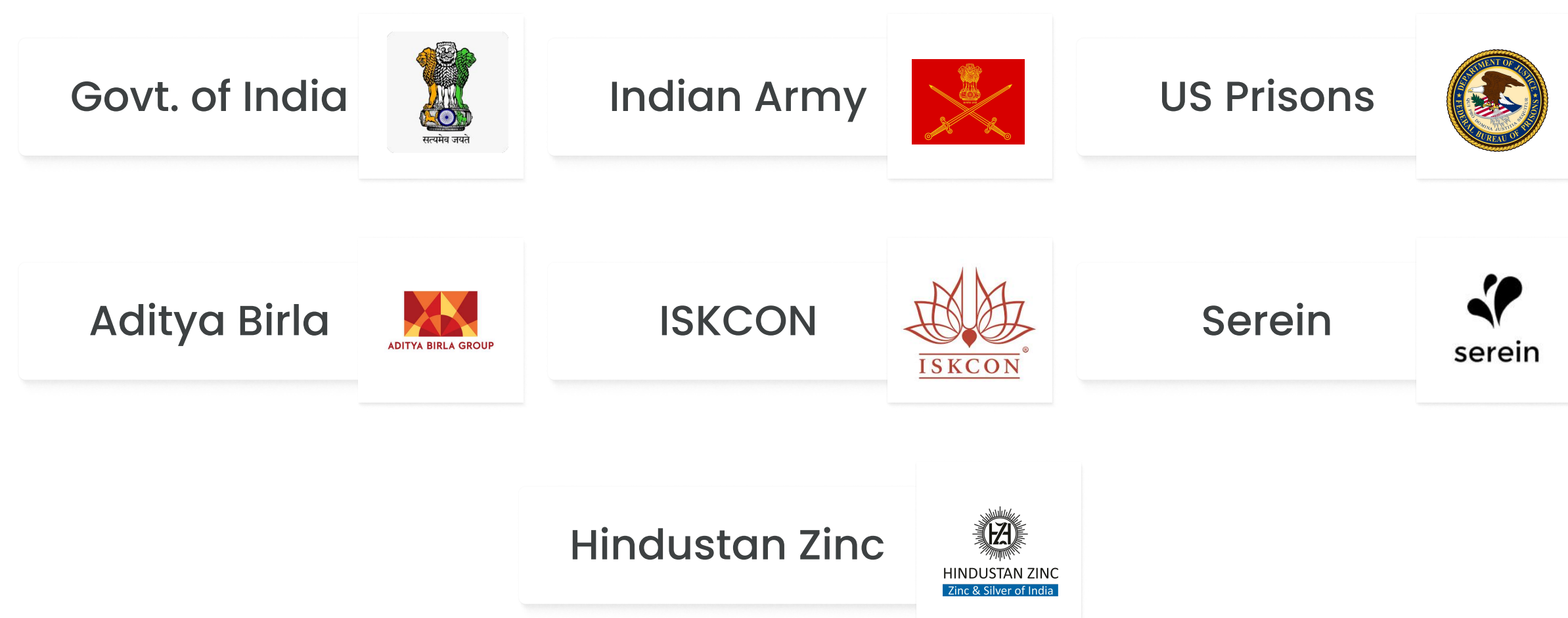




## Clients' Presence



## Our Biggest Clients



## Partners ( Tech and Associations )





# Solution Offerings

## IoT

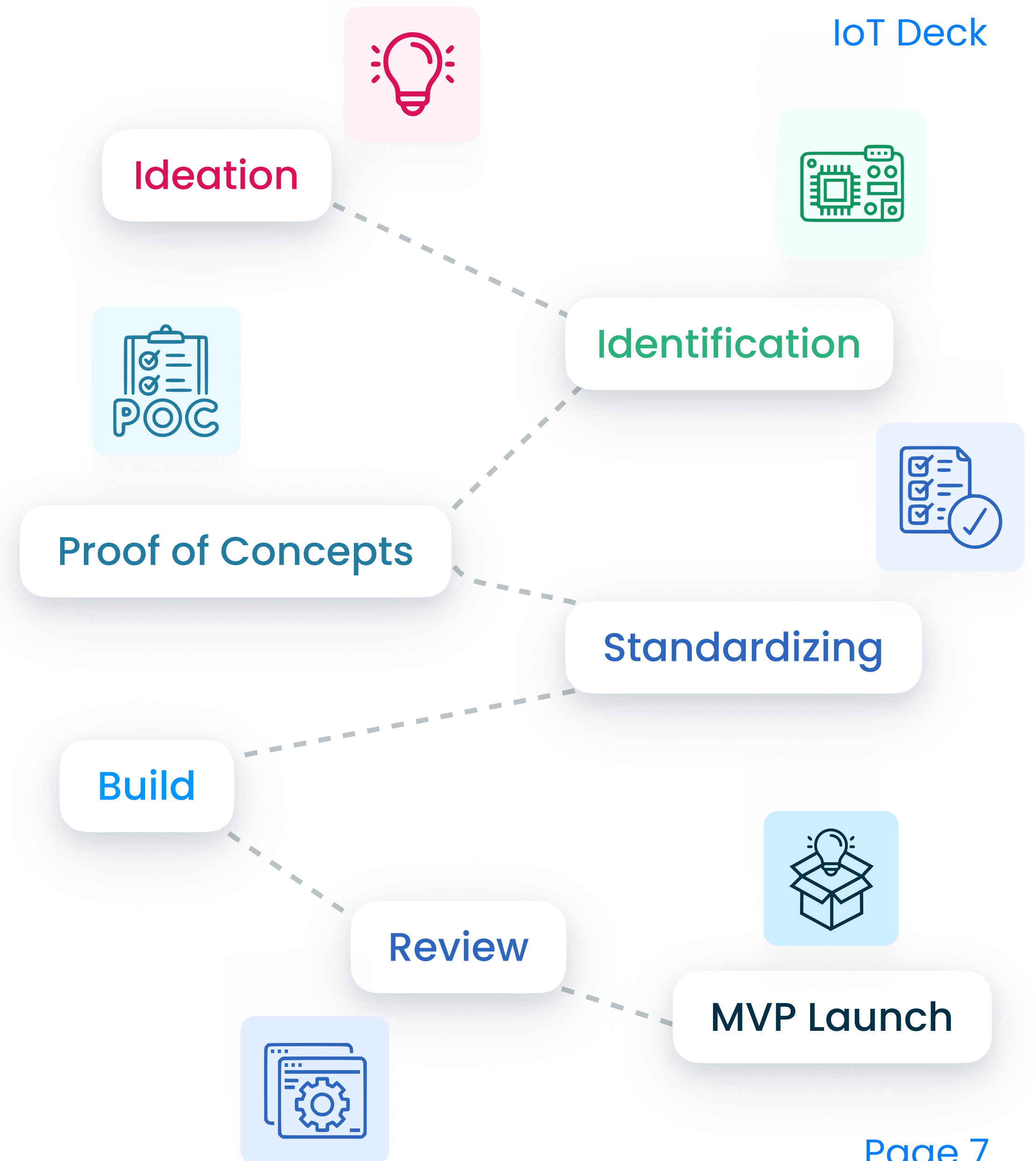
- Wearable Device Prototyping With Sensor Networks For Real-Time Tracking And Insights
- Prototype Design/Assembly
- Embedded IoT Development
- Edge Gateway Computing & Customization
- IoT Automation
- UI/UX Design
- Companion Applications
- Computer Vision
- Cloud Middleware
- Backend Development



# Solution Offerings

## Rapid Prototyping

- Ideation
- Development Boards And Microcontroller Identifications
- Proof Of Concepts And Idea Feasibility On The Hardware And Applications
- Standardizing Components
- Full Fledged Firmware Development And Companion Applications
- MVP Launch

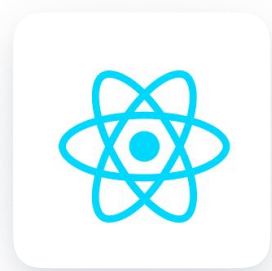
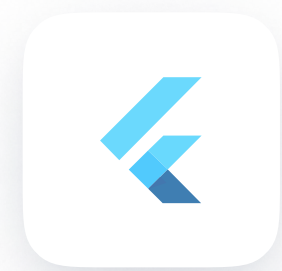




# Solution Offerings

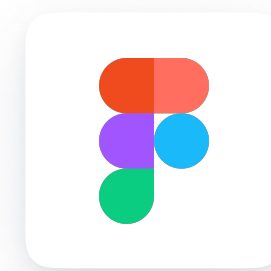
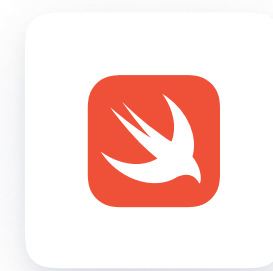
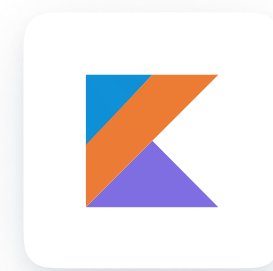
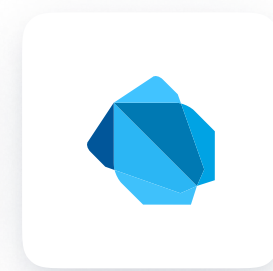
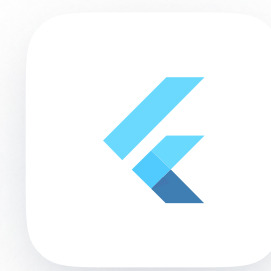
## IoT Web Software

- Full Stack Development
- ReactJs, CSS, JavaScript, Nodejs, Django
- We expertise in API Integrations, REST API, UI UX Designs



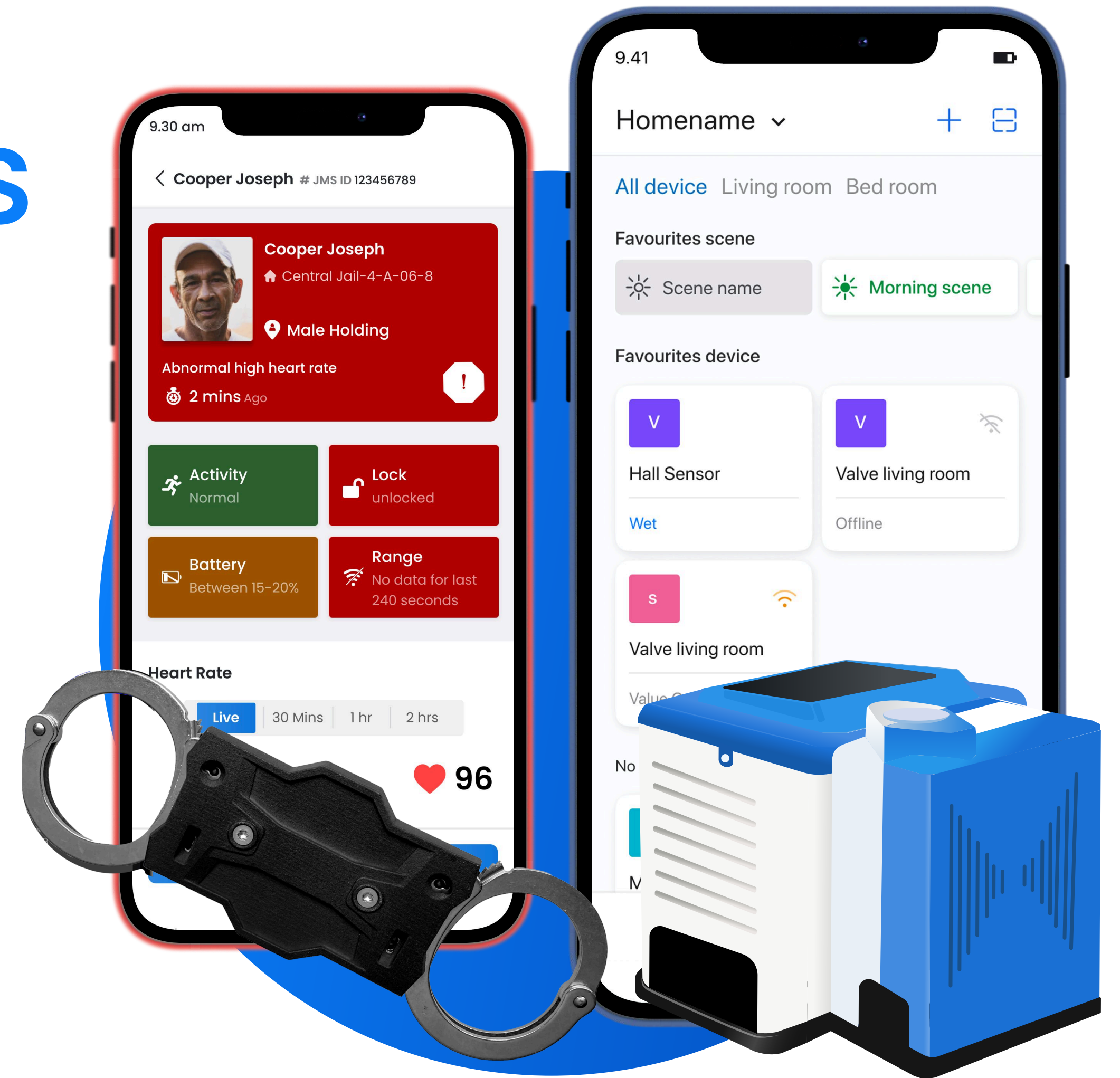
## IoT Mobile App

- Android and iOS Apps
- Native and Hybrid App Development
- UI/UX Designing, Cross-Platform Apps, API Integrations
- Flutter, Java, Kotlin, Swift, React Native



# Our AI/ML Solutions

- Face Recognition Smart Watch
- Smart Spectacles
- Hotspot Detection
- Presence Smart Mobility – Fleet Monitoring Solution
- Englishioh
- Speaklifi



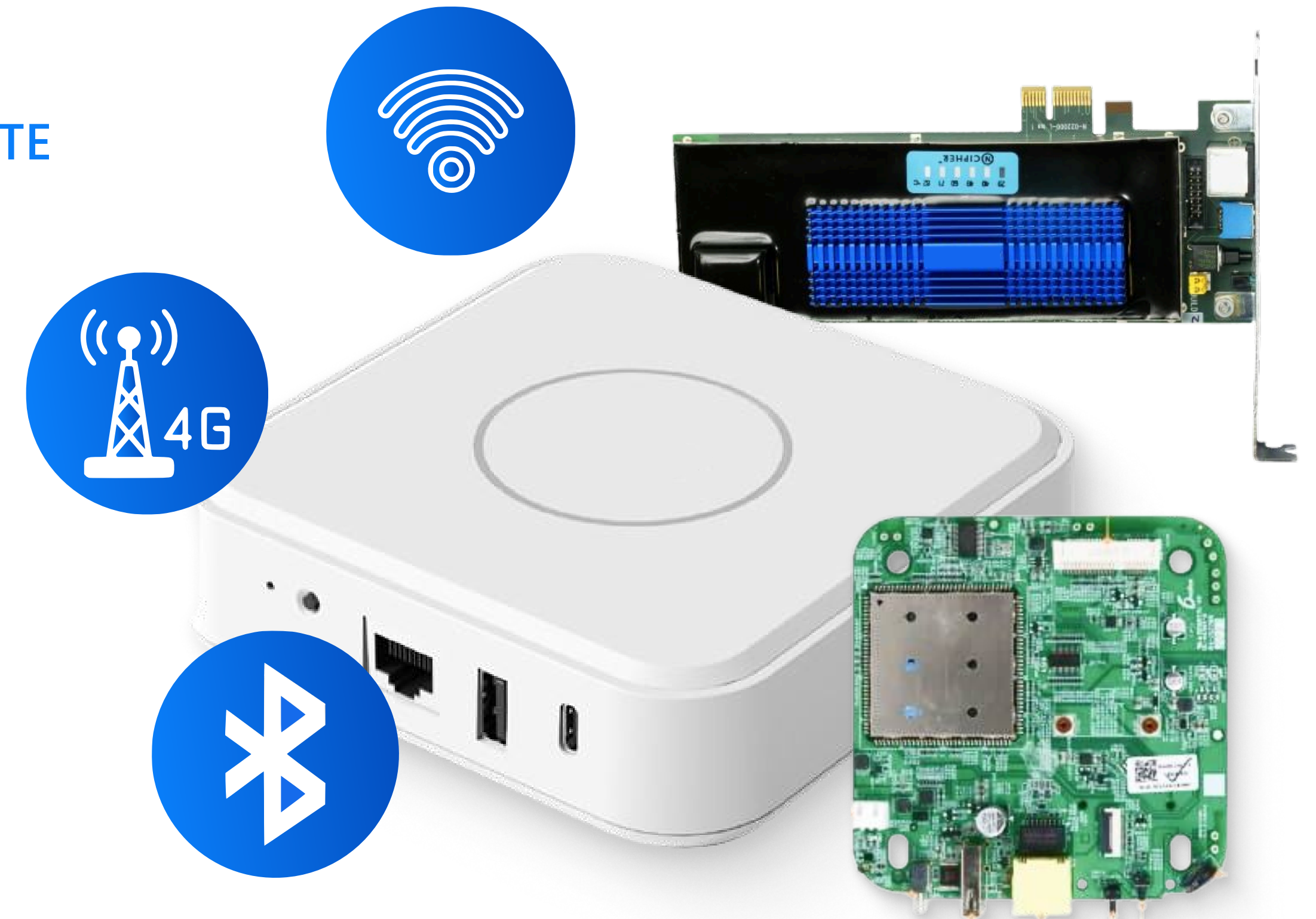


# Life Smarter U.S.A

Customized consumer home security solution for intrusion, fire, theft, burglary detections, and police dispatch.

Development on a Dusun 210-F edge gateways based on Rockchip RK3328, having LoRa, Zigbee, Z-wave, BLE, WiFi, LTE radios, Hardware Security Modules.

- Linux Porting – Custom Debian And Yocto
- Rockchip Ecosystem
- Secure Boot, Android Verified Boot (AVB), Device Mapper – Verity (DM-V), Rootfs Encryption, Mender A/B Updates
- Microchip ATECC608 Based Hardware Security Modules (HSM) For Key Protection.
- Docker Applications
- Image Generation For Factory Flashing



Pilot deployment in USA.



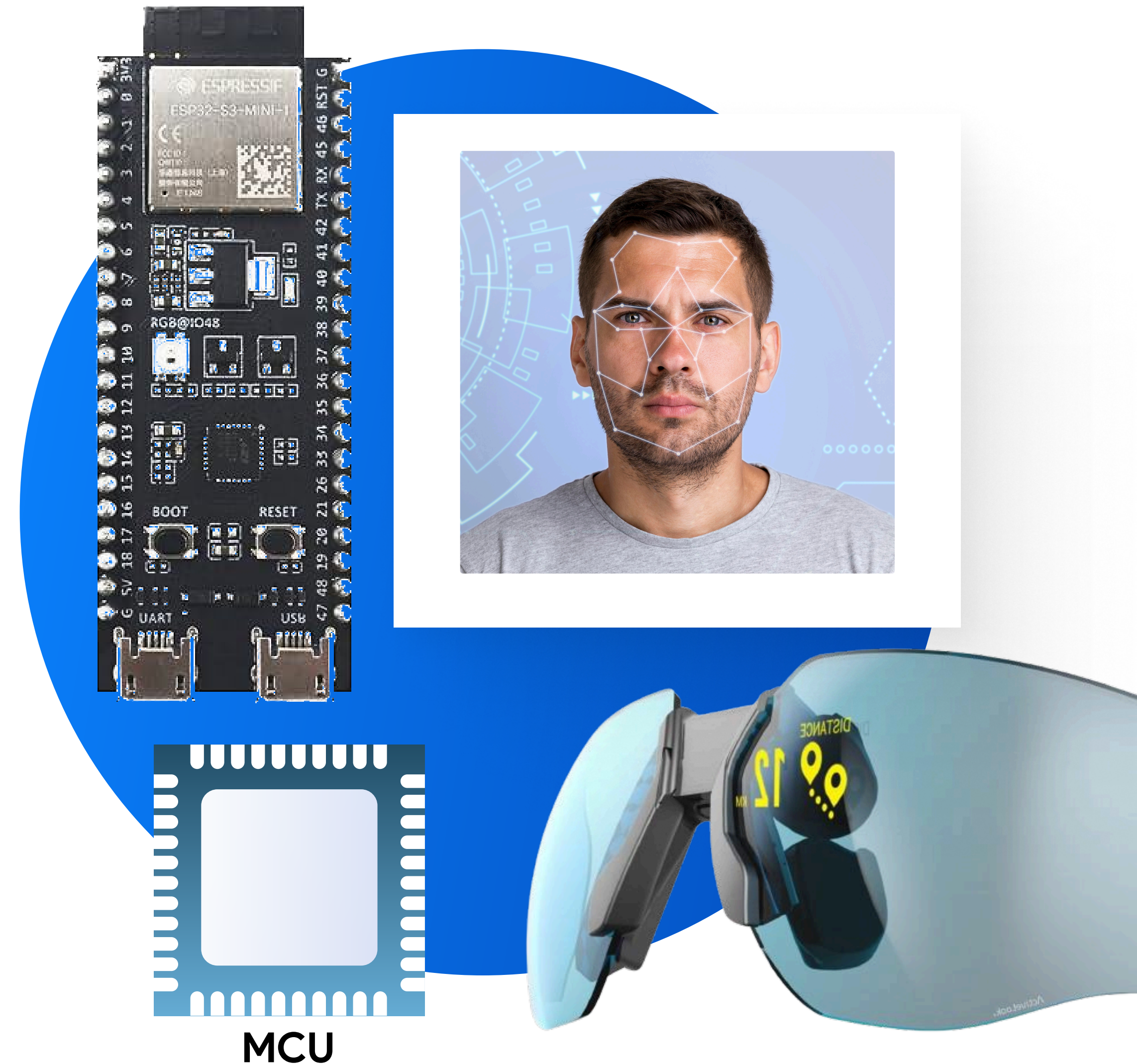
# Smart Spectacles With Camera Integration.



UAE

Capture camera feed using sensors placed on the spectacles and stream the data to a local mobile phone and thereby develop an application that utilises the AI face recognition module.

- Camera Modules Of 2MP Upto 5MP To Detect Objects
- Microcontroller.
- Data Transfer From Spectacles To The Mobile Using TCPIP Socket Over The Wifi For Faster Transfer.
- Camera Feed Processed Using An AI Module.



MCU

# Custody Protect



## Location



U.S.A

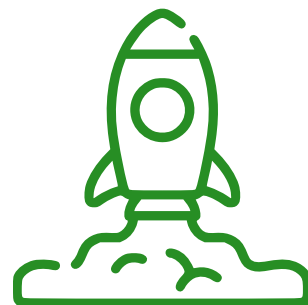


## Brief

IoT solution developed to prevent custody Deaths in US federal prisons.

July 2022

Start Date



Start



US federal agencies, Law enforcement agencies, Prison officers and Patrol officers.

End Users



Critical Health monitoring

Sector



HIPAA

Compliance



Cloud

Azure IoT Platform



Variants

- iPad solution
- SBC solution
- MCU battery solution
- Wi-Fi Mesh solution

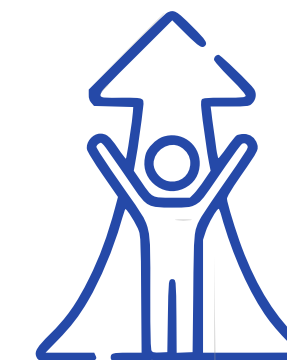
Lines of Codes

1,60,000+



Interface screens

- Web - 90+ screens
- Mobile - 50+ screens
- API endpoints - 50+



Deployed to 10-50 prisons across the US.



# Custody Protect



U.S.A

IoT solution developed to prevent custody Deaths in US federal prisons.

- Real-Time Tracking & Monitoring
- HIPAA Complaint
- Multi-Tenant SaaS Architecture
- Detainee Management
- Inventory Management
- Captive Portal
- HTTPS Server Over MCU
- Provisioning
- Pin/Unpin
- Graphical And Analytical Reports



Deployed in 25 + prison agencies across USA.



# Smart Home & Leakage Monitoring (IoT solution for Smart home and leakage )



An IoT device with Android & iOS application for water leakage detection with automatic control over the detection & Smart home solution for all the appliances.

- Water Leakage Detection
- Automatic Valve Closing System.
- In-App Notifications & Reminders.
- Multi-Link Features
- QR Code Implementations.
- Remote Control & Scheduling System.



Deployed around 30K + units in buildings and houses across USA and Canada.

# Presence Smart Mobility – Fleet Monitoring Solution



Real-time fleet management system for government buses, offering predictive maintenance and live tracking. Enhances safety and reduces operational costs.

- OBD2/CAN Integration With Raspberry Pi
- Predictive Maintenance
- MQTT Data Transmission, Docker Setup
- Geo-Fencing And Route Optimization
- Driver Behaviour Analysis And Reporting



Deployed around 10 – 20 pilot buses for Municipality of Raipur (Indian Govt.)



# Hotspot Detection for Hindustan Zinc/ Vedanta



India

A thermal camera powered by a custom AI/ML model detects hotspots and coldspots in a zinc plating cell house to enhance efficiency. A web app provides live analysis and historical reports for informed decision-making.

- U-Net Integration
- Wireless Data Transmission
- Real-Time Feedback
- Web App With Dashboard
- Reports On Detection Spots
- Custom Thresholds.



Deployed in 3 planting plants and  
2 material furnishing plants.

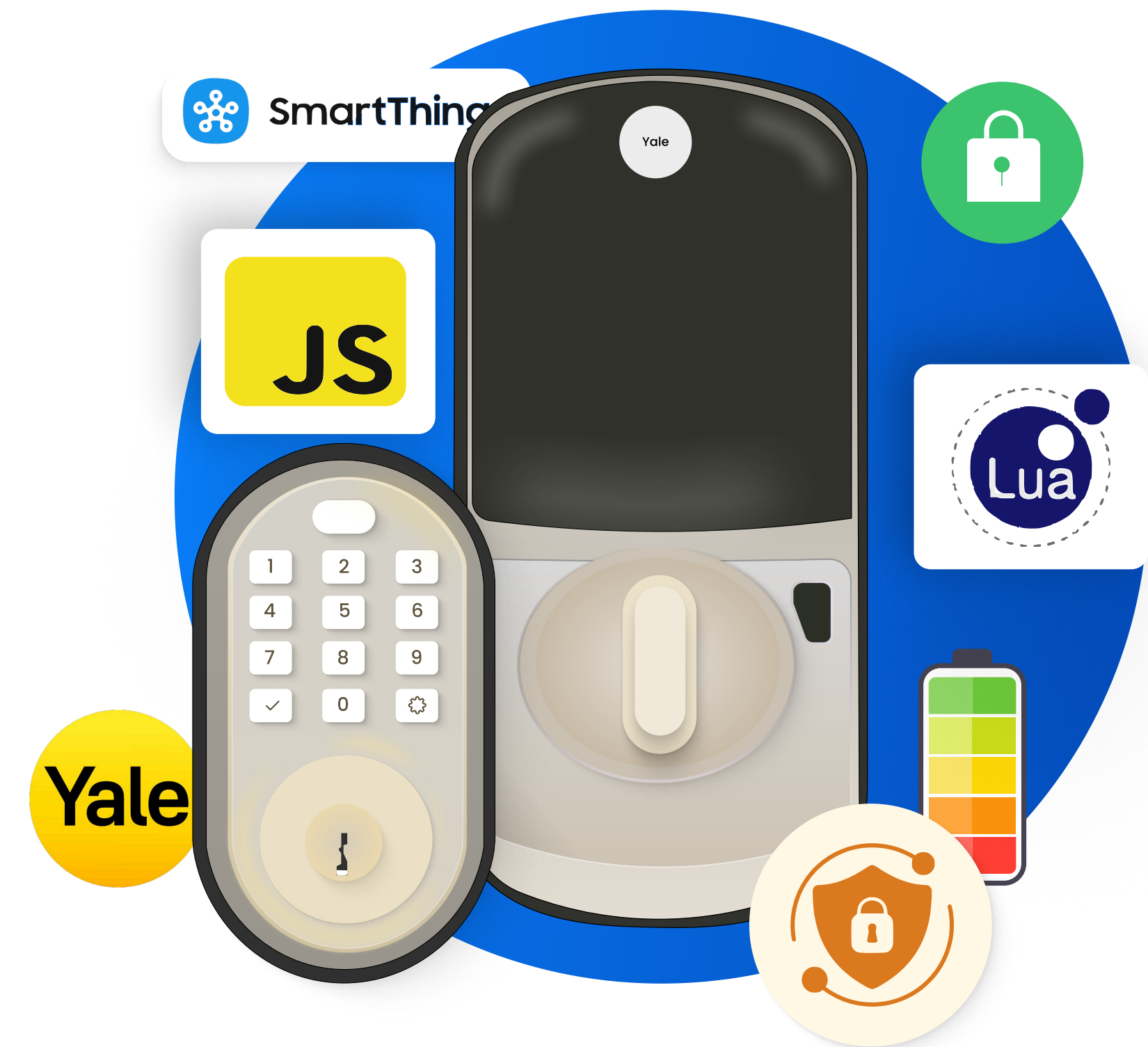
# Enhanced Yale Smart Lock



U.S.A

Smart lock for hotels, integrated with Samsung SmartThings for secure room access. Supports remote management and real-time alerts.

- Z-Wave Integration
- Remote Code Management
- Offline Functionality, Real-Time Battery Alerts
- Multi-User Access With Audit Trail
- Integration With Existing Hotel Management Systems
- IntelNUC And OpenWRT Based Gateway On The Hotel Premises To Monitor And Control The Smart Locks And TVs



Deployed in 20+ five-star hotels  
(Hospitality Industry)



# Blackouts LED Light Suit



Dynamic LED suit for performances, utilizing MCU and Protocol for wireless light sequencing. Ideal for stunning LED shows with remote control capabilities.

- Supports WS2813C LED Strips
- XLights Integration
- Wireless Control With SD Card Storage
- Seamless Sync With Music For Choreographed Light Shows
- Low-Latency Wireless Communication Up To 100 Metres





# Hopa (SaaS and NFC Based Ordering and Restaurant Management) with Automated Billing System.



Allows restaurant owners to manage their restaurants: menus, timings, kitchen, orders and deliveries.

- Auto Billing On Receiving The Order And Payment Completion.
- RabbitMQ To Communicate Between Server And Raspberry Pi.
- Puppeteer To Create Html Content And Then Convert Into PNG Format.
- Raspberry Pi Uses HTTPs Protocol To Send The Generated Image To The Printer To Print.
- Integrates With Various 3rd Party Providers

IoT Deck



Extended from 20 to 250+ restaurants in last 2 years.

# Obel: Real-Time Weather Monitoring Solution



Weather monitoring device for real-time data collection across multiple stations, used by the Indian government. Features advanced sensors and GSM connectivity.

- Microcontroller
- RS485 Communication For Sensors
- GSM Module With Dual SIM, OTA Updates
- Cloud-Based Data Storage And Analysis
- Solar-Powered With Battery Backup For Uninterrupted Operation



Deployed around 30K + across multiple weather stations in India (Govt. of India)



# Smart Water Pump



An IoT device for remote controlling and monitoring the water pump system.

- Remote Control & Monitoring
- Voltage Monitoring
- Scheduling Systems
- Notifications, Alerts & Status Update.



# Q-Bot – 2FA Automation solution



Automated tool for two-factor authentication (2FA) testing,  
improving efficiency in software testing environments.  
Integrates with Android and Raspberry Pi.

- BLE Peripheral With Raspberry Pi
- Notification Logging
- 2FA Automation With Secure Data Transfer
- Multi-Platform Support (Android, IOS)
- Real-Time Test Result Analytics And Reporting





# Myro PaintBot



Singapore

A BLE integrated mobile application for the world's first wall painting robot from Singapore. The application is used to communicate and navigate the robots to paint the walls. The Application is available for both Android and iOS.

- AI Wall Painting
- File Transferring
- Navigation/Control The Robot.
- Health Screen For Robot Diagnostics
- Statistics On Covered & Uncovered Areas.





# Face Recognition on Smart Watch

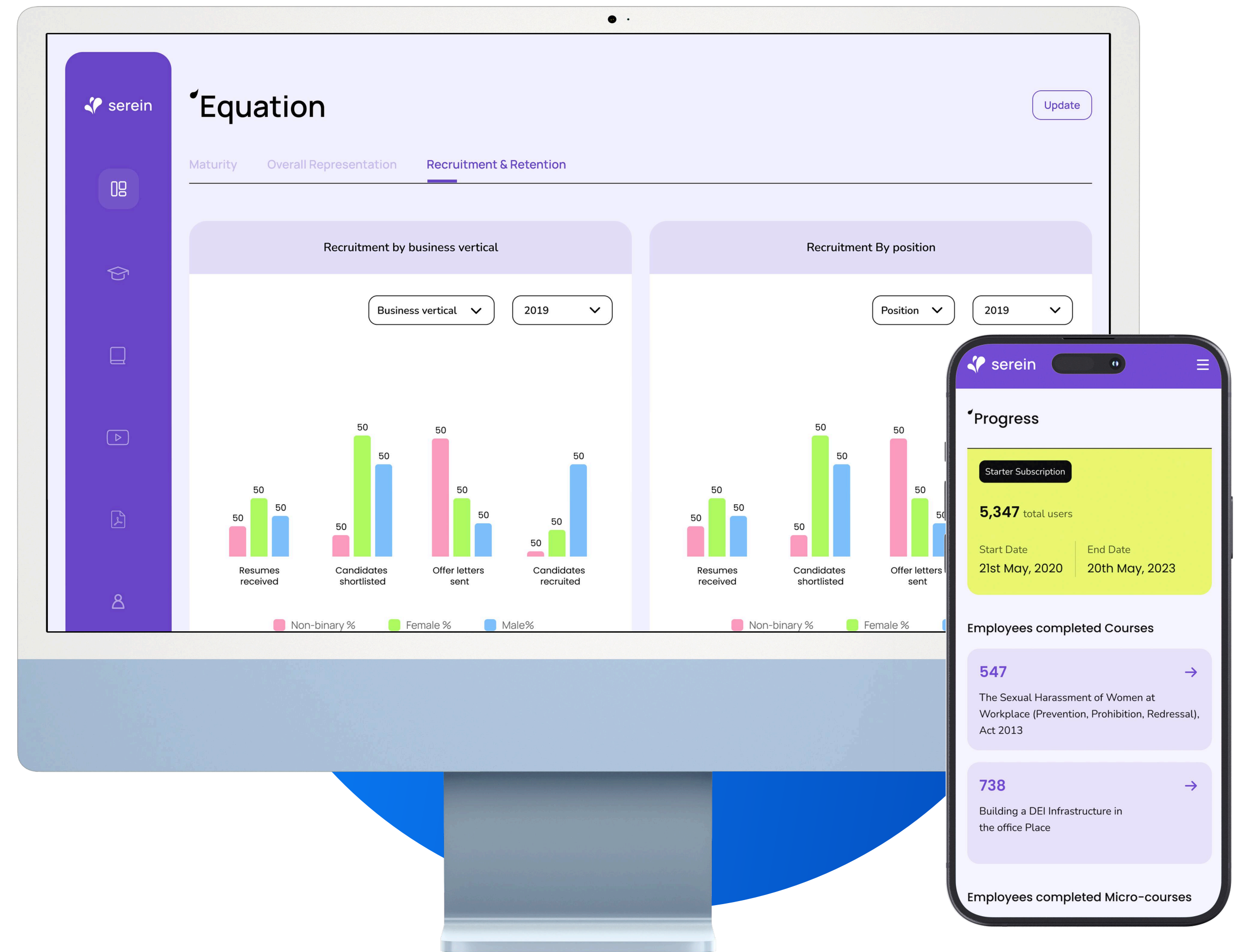


Attendance tracking system on Smart watches using  
OFFLINE Face Recognition.

- Identifying And Locating Objects & Persons.
- Detect Face Emotions.
- CNN – Object Detection, Face Recognition.
- Facial Authentication And Biometric Features.



- Employee Trainings and Skill Development
- Customer Training
- Feedbacks, Surveys, Quizzes
- Certificate Creation and Download
- User Authentication Features
- Dashboards
- SCORM

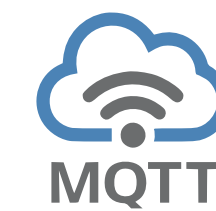
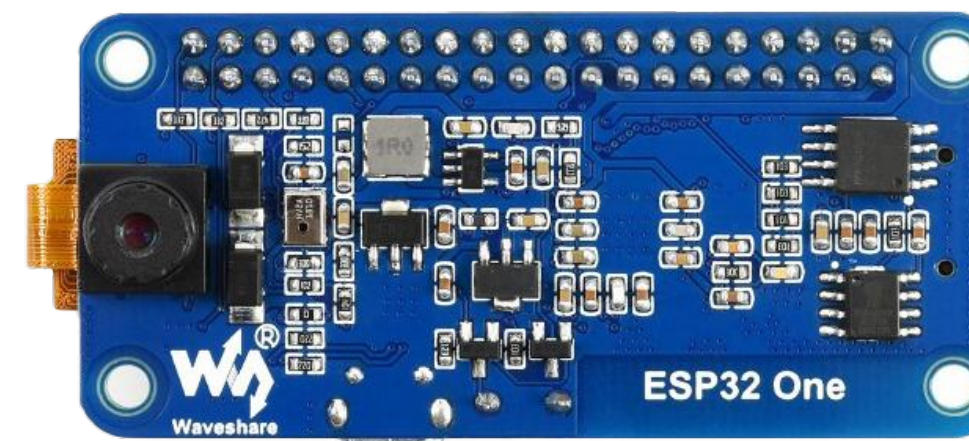
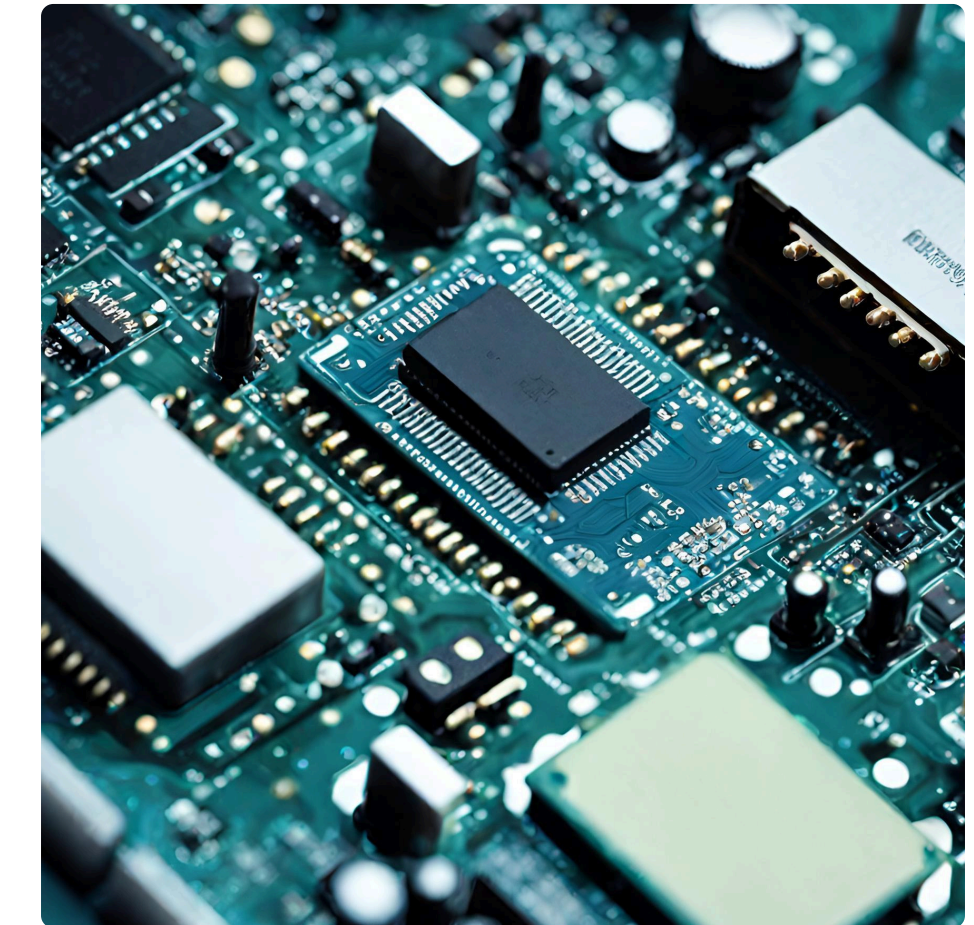
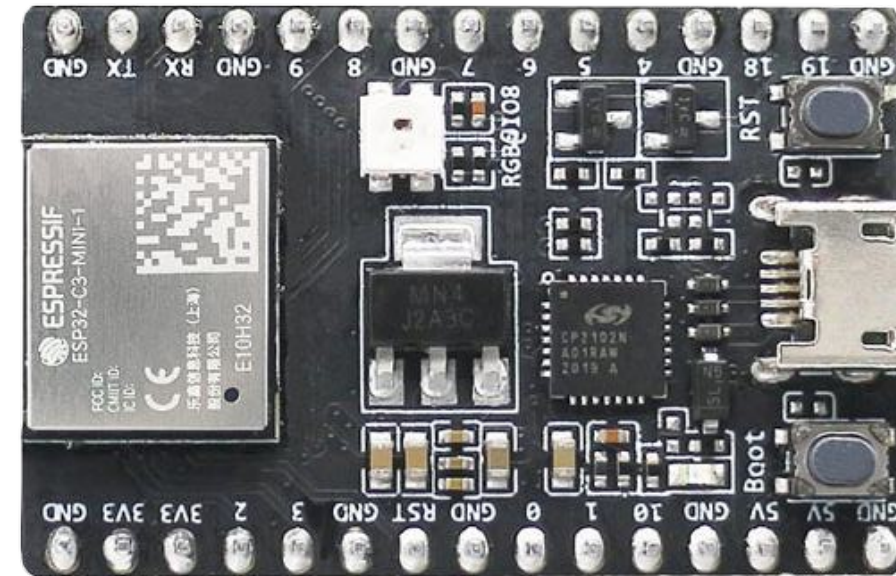


Having 1 Lakh+ platform users.



# Firmware/Embedded Systems

- MCUs, MPUs, BLE, Wi-Fi Mesh, OTA, FreeRTOS, Arduino, Routers, LoRaWAN, UWB, MQTT, Azure, RFID, NFC, LTE, GPS, NimBLE, NV Flash, RTC, Sensors & Multiple Peripheral Interfacings.



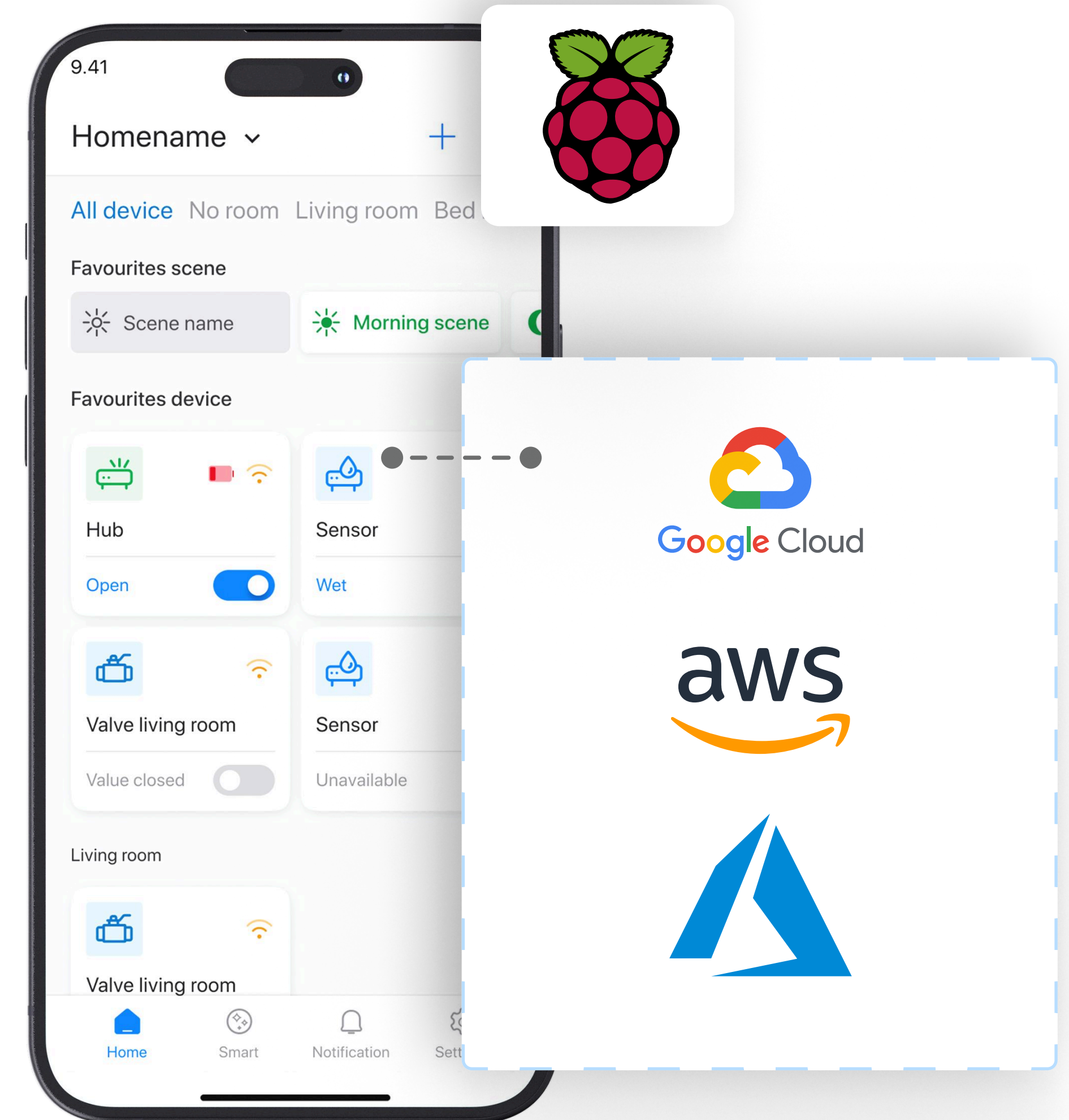


# IoT Gateways

- Dell, Laird, Dusun, Raspberry-Pi, Rock-Pi

# Cloud

- Azure, GCP, AWS, Firebase, MQTT, IoT Hub, Event Hub, Azure Services (Stream Analytics, Cosmos DB, Signal R, Change Feed, Notifications)





# Our Alliances

## Technology Partners



## Listing Partners



# Awards





# Media



ET  
NOW



TIMES  
NOW



सन्मार्ग  
[www.sanmarg.in](http://www.sanmarg.in)



YOUR  
STORY



এই সময়  
সংবাদ পত্র



campus VARTA  
It's all Begins with  
explore your campus



Ete



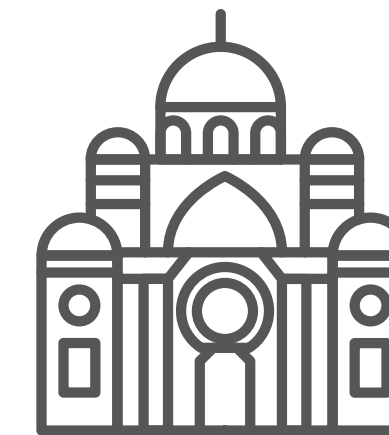
# Thank You

## Our Offices



### Bangalore

Evolve Work Studio, 3rd floor, SNN Raj Pinnacle,  
Graphite India Main Rd, Doddanakundi Industrial Area 2,  
Bengaluru, Karnataka 560048



### Kolkata

W-109, IIM Calcutta Innovation Park (Govt of India, Joka,  
Kolkata, West Bengal 700104

