



# Turn-key Based Product Engineering & Electronics Manufacturing



## Introduction & Capabilities Deck



We are **transforming the ODM landscape** by seamlessly connecting design and manufacturing with our cutting-edge on-demand platform

### Our USP

- 25+ yrs of Manufacturing Services Delivery
- 12+ Yrs of Design Services Delivery
- Owned Manufacturing & Assembly Line
- Electronics, Mechanical, IoT, AI & Cloud Development
- Ready Products for White-labelling

Manufacturing & Engineering Team

300+

SMT & PCBA Facilities

2

Successful Product Deliveries

135+

Full Product Assembly & Testing Lines

6

Satisfied Customers

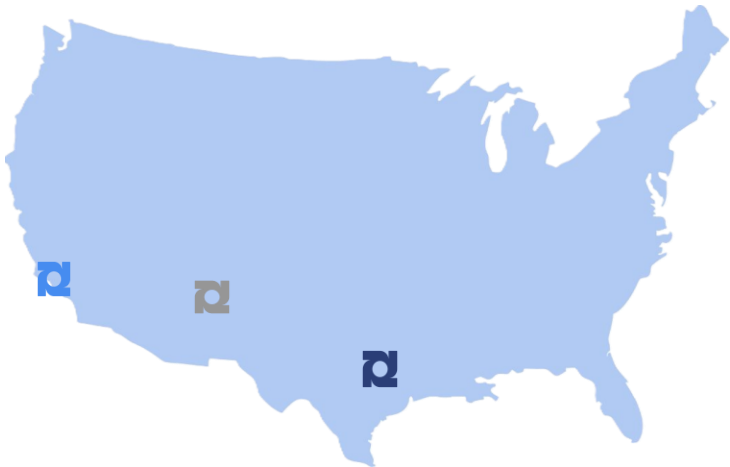
100+

R&D, Development & Product Testing Centers

3



# Global Footprint :



- 1 Manufacturing Facility
- 1 Sales Offices
- 1 USA HQ



- 3 R & D Centers
- 9 Manufacturing Facilities
- 1 India HQ



- 1 Sales Office

## Core Industries Served :



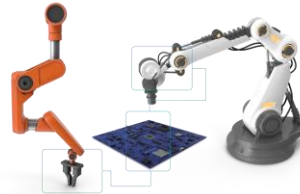
### Consumer Electronics

- Tracking Devices
- Smart Home & Office/Building
- Home Diagnostic
- Connected Appliances
- Wearable Monitoring
- Voice Assistants & IoT Integration
- Smart Sensors & Monitoring
- Smart Water Meter



### Security & Surveillance

- Video Management System
- Asset Tracker
- Camera Design & Manufacturing
- AI on Edge
- Access Control Systems
- Identity and Access Management (IAM)
- Security Information and Event Management (SIEM)



### IoT & Industry 4.0

- AI Boxes
- IoT Gateways
- Connected Sensors
- Machine Monitoring
- Predictive Maintenance
- Edge Computing
- NB-IoT
- Digital Twins
- Hardware Product Development



### Healthcare

- Health Analytics
- Online Patient Monitoring
- Electronic Health Records (EHR)
- Personalized Medicine and Health Analytics
- Telehealth & Telemedicine
- Remote Patient Monitoring (RPM)
- IoT Medical Devices



### Automotive

- ADAS
- AutoSAR
- Android Auto
- Infotainment System
- AGL
- Battery Management System
- Vehicle-to-Everything (V2X) Communication

Resources Capabilities

- Product Engineering
- Product Manufacturing
- Testing & Certification
- Cloud & Application Development
- DFM

Owned Infrastructure

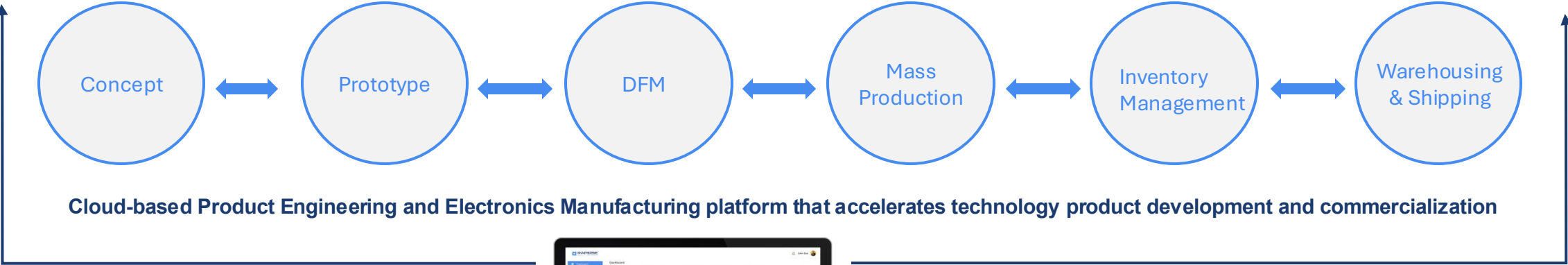
- Pre-certification Lab
- High Speed SMT Lines
- Electronics Assembly Line
- Camera Assembly Line
- EDVT Test Lab
- Clean Room

ODM Capabilities

- IoT Modules
- Asset Trackers
- Driver Monitoring System
- Vision Algorithms
- AI Box
- Camera Modules & Products

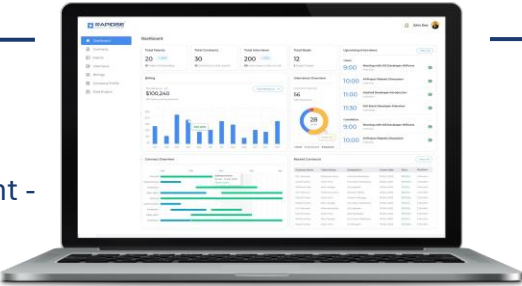
Partner Ecosystem

- PCB Fabrication
- Tooling & Molding
- Qualcomm, NXP, Renesas
- Packaging Material
- Wiring Harness & Cables
- Product Certification Labs



Capabilities:

- Ready products for white labelling
- Instant Quoting for custom product development - Efforts, Timeline, & Costing



- A Cloud-based Project Management Dashboard
- Cloud Based Supply Chain Management
- ODM Marketplace

# Product Development Life Cycle :

## Phase 1

### DESIGN

#### Key Deliverable

- Requirement Documentation & Technical Blueprints

#### Key Results:

- Product Requirement Specification (PRD)
- Architecture document
- Test Cases & Acceptance Criteria
- Component Selection & Bill Of Materials(BOM)

## Phase 2

### DEVELOPMENT

#### Key Deliverable

- Functional Prototype (1-20 Units)
- Proof of Concept Prototype (if Required)
- EVT Prototype

#### Key Results:

- Design Version 1.0
- PCB Schematic, Layout & Gerber Files
- Firmware Binary Source Files
- Mobile & Web Applications
- Mechanical Design CAD Files
- Cloud Architecture

## Phase 3

### CERTIFICATION

#### Key Deliverable

- DFM Prototype
- Certified Prototype
- DVT Prototype

#### Key Results:

- Design Version 2.0 :
  - Long Run Testing
  - Corner Cases
  - New Functionalities
- UL, CE, FCC Certifications
- Enclosure Mold Manufacturing
- Injection Molded Enclosure
- Automated Testing Zig

## Phase 4

### PRODUCTION READY UNIT

#### Key Deliverable

- Production - Ready Prototype /Golden Sample (50-100 Units)
- PVT Prototype

#### Key Results:

- Design Version 3.0 :
  - Field Testing
  - Performance Improvement
  - Battery Life Improvement
- Final Design For Manufacturing (DFM) Changes
- Final Manufacturable Design Files Injection Molded Enclosure

## Phase 5

### MASS PRODUCTION

#### Key Deliverable

- Fully Commercialized Product

#### Key Results:

- PCB Assembly & Manufacturing
- Component Supply Chain Management
- Packaging & Shipping
- Ongoing QA/QC Testing



4-8 WEEKS



12-52 WEEKS



4-16 WEEKS



4-8 WEEKS



ONGOING



# Services- Engineering :



## Embedded Hardware

- Hardware Architecture
- BoM Optimization
- Electrical Schematic Design
- Multilayer PCB Layout Design
- High-Speed Board Design
- Analog & RF Design
- Certification & DFM
- Image, Audio, Antenna Tuning



## AI Development

- Computer Vision
- Edge Computing & AI
- Algorithm Development
- Recommendation Engine
- Natural Language Processing
- ADAS & DMS
- Healthcare AI
- Predictive Maintenance



## Mechanical Design

- New ID concept generation
- Product Design & Development
- Reverse Engineering & Concept designing
- Simulation and Analysis
- IP Standards Validation
- 3D Engineering



## Embedded Software

- Bare Metal, RTOS, Linux, AOSP
- BSP, Device Driver and Firmware
- Linux Kernel Customization
- HAL, I2C, SPI, PCIe, WiFi, Cellular, Sensors
- Multimedia Codec & Framework
- FOTA - Firmware Over the Air
- User Interface Software



## Information Technology

- Web & Mobile App Development
- API Development and integration
- IoT Dataflow Architecture
- Data Visualization
- Managed DevOps Services
- Cloud Engineering - AWS, Azure, GCP
- Robotic Process Automation
- Metaverse, AR/VR App



## New Product Introduction

- Certifications
- DFM Analysis
- Supply Chain Management
- Automated Test Jigs
- Feature Enhancing and Re-engineering
- BOM Optimization
- Performance Optimization



# Services & Capabilities - Manufacturing :



## Manufacturing Services

- Electronic Design Validation
- PCB Assembly (SMD, DIP, TH)
- Supply Chain & Sourcing
- Mold & Enclosure Manufacturing
- Prototyping
- Box Build & Full Product Assembly
- QA/QC & Testing
- Packaging
- Green Manufacturing



## Manufacturing Capabilities

- 5 Million+ PCBs Delivered
- Manufacturing & Engineering Team of 500+
- 10 Electronics Manufacturing & PCBA Facilities
- 18 SMT & 22 Full Product Assembly Lines
- 6 R&D and Final Product Testing Centers
- SMT Area Rated Class 100,000 Clean Room
- Camera Module Assembly Area Rated Class 100,000 Clean Room
- Solder Paste Printer
- In line Solder Paste Inspection (Make: Kohyoung)
- Nitrogen and Lead-free Compatible Soldering
- Wave Soldering
- Selective Soldering (Make: ERSA)
- Pin Insertion Machine (Make: TE P350)
- Inspection- 3D Automatic Optical (Make: Omron)
- Inspection- In-line X Ray Machine (Viscom (Germany) and Shimadzu (Japan))
- PCB Cleaning (Make: Unitech)
  - Electromagnetic Testing (EMI & EMC), ESD (Electrostatic) Control workstation
  - Thermal, Humidity, Insulation Testing, Endurance & Ageing Testing
  - Climatic Chambers (Hot, Cold and Humid)
- Component mounting machine Capability:
  - Min : 0402mm/ 03015 inch
  - Max : 102\*102\*T 25.4 mm
  - Accuracy : 30 Micron

# Services- Product Reliability Test Lab :



## EMI Testing

- Electro Magnetic Interference
- ESD checker system
- ESD Simulator
- Semi Anechoic Chambers:
- EMI Test Receivers:
- RF Power Amplifiers:
- Pre-Amplifiers
- Antennas
- Directional Couplers
- BCI Probes



## IP Rating

- Air Showers
- Bench Top Environmental Chamber
- Temperature & Humidity Test
- Salt Spray Chamber
- Dust Chamber
- Water Spray
- Thermal Shock
- Vibration Test
- Transient Voltage
- Laboratory Oven



## RF Tuning

- Spectrum Analyzers
- Vector network Analyzers
- Signal Generators
- RF and Microwave Switches



## Vehicle Testing

- Vehicle Cold Chamber
- Chassis Dynamometer



## EPC Testing

- 100x Microscope
- Profile Tuning Suite
- ESD protected production floors
- Electro-Static Discharge
- Dark Room for camera lens calibration
- Resistance Meter
- Power Analyzer
- Thermal Imager
- Function Generator
- Insulation Test
- Electronic Lead Test
- LCR Meter
- Highly Accelerated Stress Test
- Switch Endurance
- Oscilloscope
- ACG Rig Test Bench (Vehicle Simulation)
- Digital Call Box and Analog Call Box



Water Spray Chamber



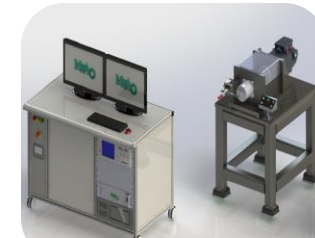
Salt spray & Thermal Shock



Accelerated Stress Test



Hot / Cold Environment Chamber



MID Motor Performance Test Rig



Sensor Functional Tester



Performance Measurement



EMI-EMC

## Partners & Plants/R&D Facility Certifications (Entire Group) :

### Certificates



EN ISO 13485



ISO 45001



OHSAS 18001



EN ISO 14001



ISO 9001



IATF 16949

### Semiconductor Partners



# Deliveries Across Industries Served :

## Automotive



ADAS Camera



DMS Camera



Infotainment System



Vehicle Tracker



Location Tracker



Telematics



Instrument Cluster



Battery Management System



ECU

## Consumer Electronics



Smart Watch



Personal Tracker



Smart Headphone



Smart Speaker



Smart Wi-Fi Plug



Smart Mailbox



Laptop



Mobile



Smart Farming Device



Smart Grain Monitoring

## Security & Surveillance



VMS System



Tejas Safety



Surveillance Camera



Smart BLE Lock



Smart Access Control System



LoWRA Gateway



Wi-Fi Door Bell

## Healthcare & Fitness



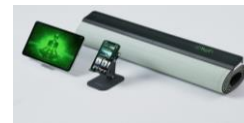
Fitness tracker



Smart headband



Smart Skin Care



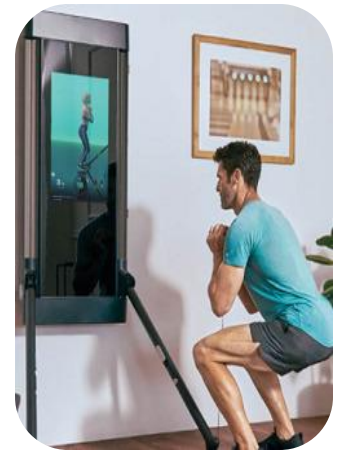
Smart Yoga Mat



Smart Lap Counter



Smart Wound Care



Smart Trainer

# Rapidise ODM Product Portfolio





IOT and Connected Devices

  
Smart Tag

  
Smart Farming Device

  
Environmental Tracker

  
Personal Tracker

  
Asset Tracker

  
Router

  
Edge Gateway

  
ADAS Camera

  
Telematics

  
Smart headband

  
Fitness tracker

  
Smart Watch

  
Surveillance Camera

  
Smart Wi-Fi Plug

  
Smart BLE Lock

Security Devices

Office Devices

Automotive Devices

Health Devices

Home Devices

Industrial Application Controller / Controllers for Fans & Air Conditioners


  
Brushless DC Fan Controller

  
Internal Display Unit PCB


  
Internal Display Units (IDU)

  
Outdoor Unit PCB Assembly


### Camera (Tejas)




LTE Edge AI LTE  
Camera 12 TOPS




WiFi Edge AI LTE  
Camera 48 TOPS



LTE Edge AI LTE  
Camera 8 TOPS




WiFi Camera




Video  
Doorbell


### Dashcam



LTE Dashcam




WiFi Dashcam




Edge AI Dashcam


### Edge AI Bodycam 8TOPS



LTE Bodycam



5G Bodycam



WiFi Bodycam

### Trackers (TekT)

#### Beacon



Lite N1



Pro N4

#### Safety



Tejas Safety Lite



Tejas Safety Pro



Smart Helmet



Smart Hook

### Gateway / HMI (RISE)



AI Box 12 Tops



AI Box 8 Tops



8 TOPS HMI



SBC 6125



SOM 6490



SOM 5430



LTE Gateway  
2 TOPS



Career Board for  
6490/5430



SOM 8550



Career Board  
For 8550



# Delivered Success Solutions Case Studies



# Audio/Vibration Sensor & Zigbee Gateway

Rapidise has built a smart IoT monitoring system ensuring safety for industrial equipment in hazardous environments. Our developed device monitors Audio/vibration, voiceprint, frequency conversion, and temperature, preventing damage from harsh conditions. The solution, utilizing Zigbee communication, securely transmits data to the cloud while providing real-time insights for operators.

## Our Role:

- PRD
- System Architecture
- Embedded Hardware Development
- Embedded Firmware Development
- Prototyping

## Technologies:

- MCU
- Audio Codec
- Accelerometer (MEMS)
- IR Temperature Sensor
- Zigbee Module
- RS485 Connector
- USB-C Connector
- ADC
- Mic
- LAN Port Connector



# Cryo Container Sensor

Rapidise has built a gateway device that ensures monitoring and safety for Cryopreservation or Cryoconservation. Our developed device makes sure that Cryo shipments are delivered safely by monitoring and avoiding any damage along the way with unregulated kinetics or environmental conditions that could cause disrupts. The device would securely send the data to the cloud as well as display on the container itself for the delivery executive..

## Our Role:

- System Architecture
- Embedded Hardware Development
- Embedded Firmware Development
- Database
- Cloud
- Real-time Monitoring Dashboard

## Technologies:

- Low Power Application
- AWS
- BLE and GSM
- Active Lock
- e-Ink display

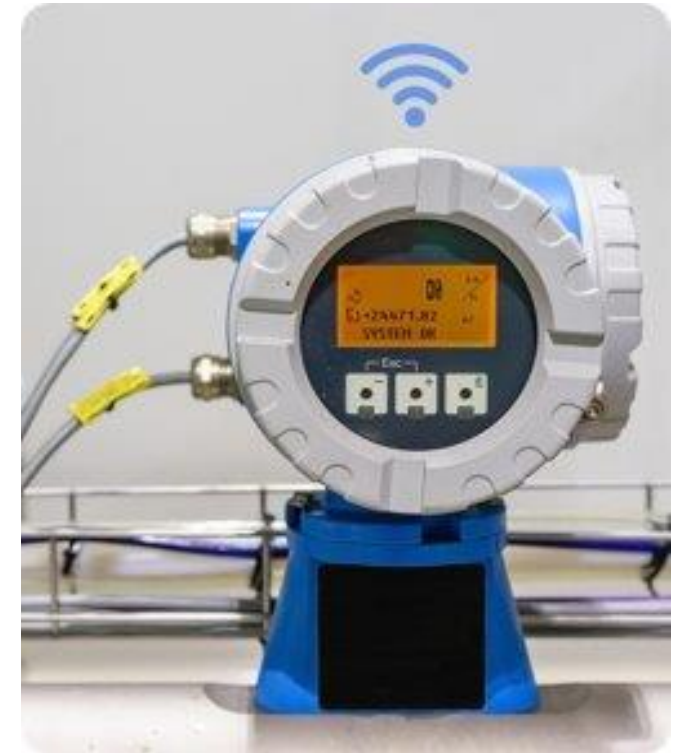


## Overview of the Project:

Rapidise deploys sensible, scalable, multipurpose IoT network infrastructure for utilities delivering comprehensible interoperability points between systems and significantly streamlining and decreasing integration costs and problems. So water, drainage, gas, and waste utilities and cities can concentrate on building business value through developments that enhance services and improve the lives of customers and citizens.

## Specifications:

- Water quality
- Metering
- Flow Measurement
- Level Measurement
- Gas Detection
- Water Purification at Apartment/Colony Level
- Leakage Detection (Apartment/Society Level)
- Integration with Emergency System
- Smart Bins, Level , Location
- Overflow Alert, Odor Detection



## Overview of the Project:

Smart metering is one of the first steps for inventing city-wide smart grid systems that assist solve challenges surrounding energy consumption and water usage. It allows utility providers to optimize energy distribution while empowering consumers to make smarter decisions about their energy usage. Apart from this, it can help improve customer service and your bottom line through actionable insights developed from meter data.

## Specifications:

- Robust and Sleek design
- Variant: Single phase & Three phase
- Communication: Two way, Open protocol (DLMS), GSM/RF
- Internal relay for Remote Load disconnect/ Reconnect
- Anti-tamper and fraud detection
- Security - Password protected user login and parameter settings
- Online data downloading through GSM/GPRS communication.





36mm x 36mm x 11.50mm



as light as "cherry"

## Enhanced Connectivity and Versatility

- ▶ **Comprehensive Engagement Solutions**  
Supports Apple iBeacon, Google Eddystone (UID, URL, TLM), and custom formats.
- ▶ **Multi-Advertising Capabilities**  
Can support 6 different types of advertisement formats, including SOS, UID, URL, TLM, iBeacon, and custom formats.
- ▶ **Customizable Configurations**  
Available on Android, allowing customization of beacon name, Tx power, advertising format, and interval.

## Services & Customization

- ▶ **Customizable Options**  
Branding, logo, label, packaging, enclosures and firmware can be tailored to your needs.
- ▶ **Efficient Time to Market**  
Our all-round service and customization options save you time and costs, enabling rapid deployment.

## Certifications

- ▶ Complies with RoHS, FCC, REACH, CE. (Planned & Pending)







N1, N3



N2, N4

Features\Beacon Versions	N1	N2	N3	N4
Primary Use Case	Asset tracking, Proximity marketing, Security & Access	Temperature & Humidity monitoring, Environmental Monitoring	Asset tracking, Proximity marketing, Security & Access	Asset tracking, Environmental monitoring, Event management
Chipset	Inplay IN100 D1	Inplay IN100 Q1	Nordic nRF52805	Nordic nRF52820
Bluetooth Version	Bluetooth 5.3	Bluetooth 5.3	Bluetooth 4.2 & 5.0	Bluetooth 4.2 & 5.2
Range	Up to 100m	Up to 100m	Up to 100m	Up to 100m
Dimensions	36mm x 36mm x 10mm	36mm x 36mm x 11.50mm	36mm x 36mm x 11.50mm	36mm x 36mm x 11.50mm
Weight	9.7g (With Battery)	13.5g (With Battery)	13.5g (With Battery)	13.5g (With Battery)
Material	ABS Plastic	ABS Plastic	ABS Plastic	ABS Plastic
Waterproof Rating	IP67	IP65	IP67	IP65
Sensors	None	Temperature & Humidity	None	Temperature, Humidity, Ambient Light, 3-axis IMU
Advertising Formats	UID, URL, TLM, iBeacon, Custom	UID, URL, TLM, iBeacon, Custom	UID, URL, TLM, iBeacon, Custom, SOS	UID, URL, TLM, iBeacon, Custom, SOS
Battery Life	3+ years	3+ years	3+ years	3+ years
Unique Features	Lightweight, Non-configurable	Advanced sensors for environmental monitoring	Custom firmware development, Customizable configurations	Multi- advertising capabilities, Enhanced safety with motion detection and SOS features



# Tejas Safety – Connected Personal Safety Device

Tejas Safety, developed by Rapidise, is a versatile, wearable safety device engineered to enhance personal security, workplace compliance, and real-time personnel tracking. Designed for attachment to an individual's gear or apparel, Tejas Safety offers a smart alert system that detects improper insertion or fitment, instantly notifying users and supervisors—thereby reducing the risk of safety lapses in hazardous or regulated environments. Beyond passive alerts, the device incorporates IoT connectivity, enabling continuous tracking, real-time location sharing, and motion/activity detection. Whether monitoring field personnel, lone workers, or factory staff, Tejas Safety ensures situational awareness with low-latency communication and energy-efficient operation.

## Our Role:

- System Architecture
- Embedded Hardware Development
- Embedded Firmware Development
- Mechanical Design
- Database
- Cloud
- Real-time Monitoring Dashboard
- Prototyping

## Technologies:

- BLE (nRF52840)
- LoRaWAN
- NFC
- GNSS
- Accelerometer + Gyroscope
- Pressure Sensor



# Smart Hook

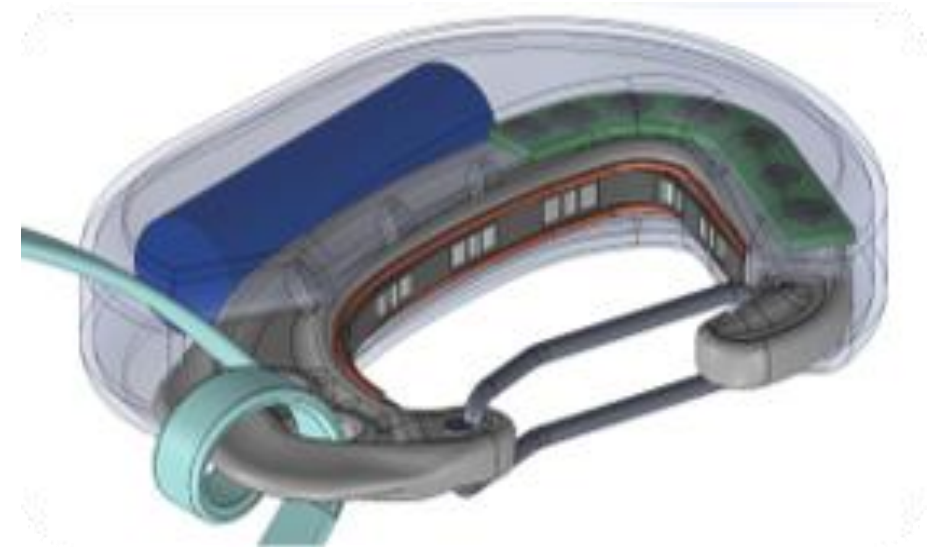
The Tejas Smart Hook project aims to deliver a human-centric, multi-functional tracking and connectivity device that enhances personal safety and asset security. By combining robust physical design with advanced communication technologies, Tejas provides users with real-time location awareness and flexible attachment capabilities for diverse operational contexts. Key Features include Advanced Tracking: Equipped with GPS for global positioning, BLE for local connectivity, and LoRa for long-range communication. Integrated support for NFC enables fast, secure pairing and identification. Rechargeable Power: Built-in rechargeable battery with user-friendly charging options supports extended operation in the field.

## Our Role:

- System Architecture
- Embedded Hardware Development
- Embedded Firmware Development
- Mechanical Design
- Database
- Cloud
- Real-time Monitoring Dashboard
- Prototyping

## Technologies:

- Nordic - BLE (nRF52840)
- LoRa Transceiver
- NFC
- GNSS- uBlox Module
- Accelerometer + Gyroscope
- Pressure Sensor



# Telep An AI Model Library – Security & Surveillance – Safety Application



**Intrusion  
detection**



**Safety  
Gear**



**Fire and Smoke  
Detection**



**Gun  
Detection**



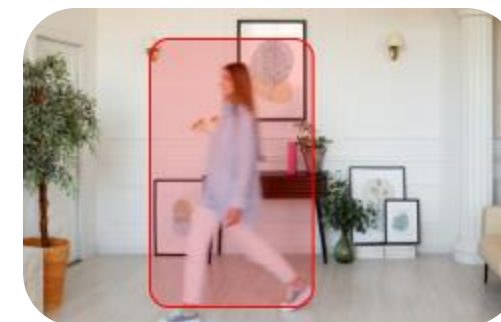
**Violence  
Detection**



**Human Activity  
Detection**



**Loitering  
Detection**



**Motion  
Detection**

# Telep An AI Model Library – Security & Surveillance – Safety Application



**Leakage  
Detection**



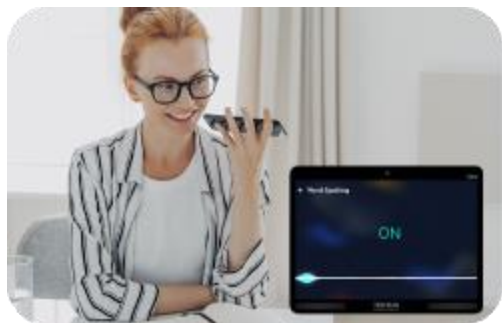
**Tailgating  
Warning**



**Facial Recognition  
System**



**Sign Language  
Detection**



**Word  
Spotting**



**Gesture  
Control**

## Strategic Partners & Suppliers :





**IoT Product  
Engineering**



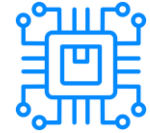
**Artificial Intelligence  
& Machine Learning**



**Digital  
Transformation**



**Electronics  
Manufacturing**



**PCBA & Full  
Product Assembly**



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