

IoT & connected products

Connected-device engineering that accounts for radio behavior, power, unreliable links, and long-term maintenance. We bring firmware, gateways, and update workflows together around your deployment conditions.

WHAT WE CAN DO

- 01

Radio integration

BLE, Wi-Fi, LoRa, and cellular integration selected around coverage, throughput, and energy requirements.
- 02

Reliable protocols

Framing, retries, timeouts, reconnection, and state recovery when communication is intermittent.
- 03

Low-power operation

Sleep architecture, wake sources, radio scheduling, and measurement-led power profiling.
- 04

Fleet maintenance

Provisioning, telemetry, gateway behavior, and update delivery across constrained connections.

TECHNOLOGIES & WORKING AREAS

BLE / Wi-Fi / LoRa / LoRaWAN / LTE-M / NB-IoT / Gateways / provisioning / Low-power firmware

A CLEAR PATH TO HANDOVER.

WHAT YOU RECEIVE

- Device and gateway firmware in the agreed scope
- Protocol and provisioning documentation
- Connectivity and failure-recovery test results
- Power measurements against defined scenarios
- Deployment and firmware-update instructions

HOW THE WORK PROGRESSES

- 01 **Map the deployment**
Coverage, battery, link budget, and device behavior.
- 02 **Choose the architecture**
Radios, protocols, gateways, and update paths.
- 03 **Integrate the system**
Firmware and recovery behavior on real links.
- 04 **Validate the conditions**
Power, reconnection, and update scenarios.

RELEVANT ENGINEERING

LoRa OTA Update System

Chunked updates for deep-sleep sensor nodes with resume-safe transfer state.

UGV Mesh Vision Link

An image-transfer fallback using ESP32 mesh and local reconstruction.

TO SCOPE YOUR PROJECT

- / Device architecture and expected deployment
- / Radio requirements and regional constraints
- / Battery and data-rate requirements
- / Gateway or cloud integration details

LET'S DISCUSS YOUR PROJECT

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