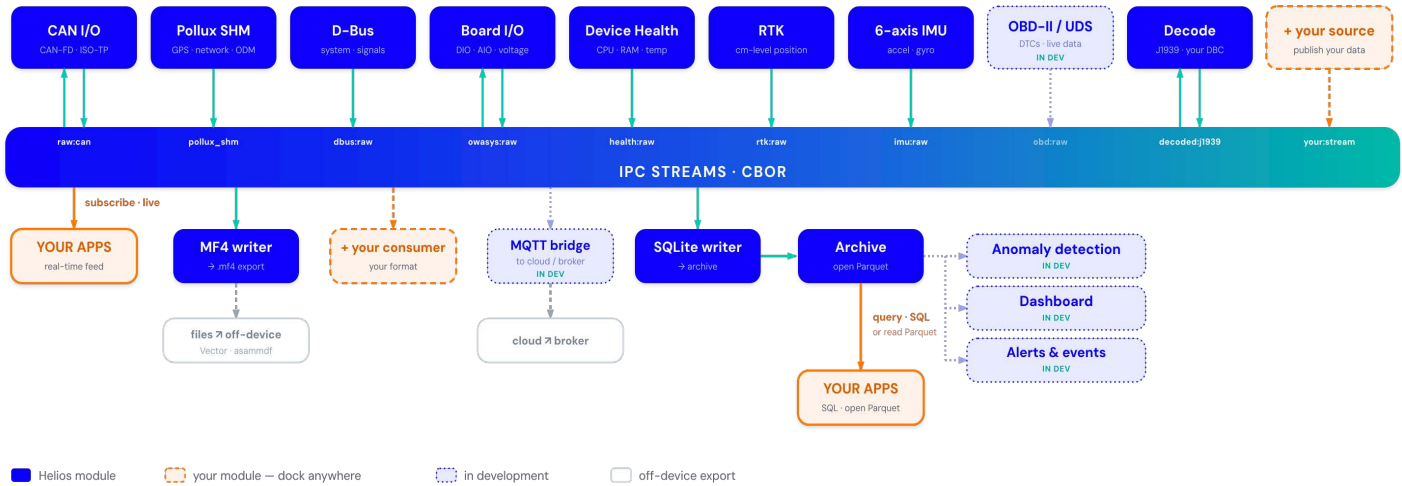


CoreM2M Helios Edge Framework

High-performance edge analytics to capture, decode, and store data directly on Owasys hardware.

Stop building telemetry infrastructure from scratch. CoreM2M Helios delivers a modular, embedded edge framework right out of the box. Capture, decode, and store high-resolution field signals on-device to eliminate per-message cloud fees while keeping your data in open, portable formats.



Your data stays on the device in open formats — read it live, query the archive, and slot your own modules in anywhere.

Process data on-device. No cloud lock-in, zero per-message fees.

How it works

1 One bus

Every source publishes to one on-device bus: CAN/CAN-FD, modem, GPS, board sensors, and D-Bus. Easily integrate your own custom services or hardware

2 Subscribe

Any module subscribes to the streams it needs. Writers persist it: MF4 for vehicle tools, SQLite for structured history

3 Archive

SQLite feeds an open, full-resolution Parquet archive. Keep every signal or enable optional thinning for months of local history ready for instant on-box SQL queries

4 On the box

The archive drives on-device intelligence. Run anomaly detection, web dashboards, and custom apps locally, transmitting only key alerts off-device to save bandwidth

What you can do with it

- Decode** any bus with your DBC, J1939, or your own decoder
- Query** the full-resolution archive with SQL, right on the box
- Export** to MF4, Parquet or CSV, all open formats
- Stream** the live data feeds straight into your own app
- Alert** on any signal with live, rule-based thresholds
- Sync** device time to GPS, accurate and holding through tunnels
- Monitor** device health, storage and signal rates, live
- Extend** with your own module on the bus, or license the source

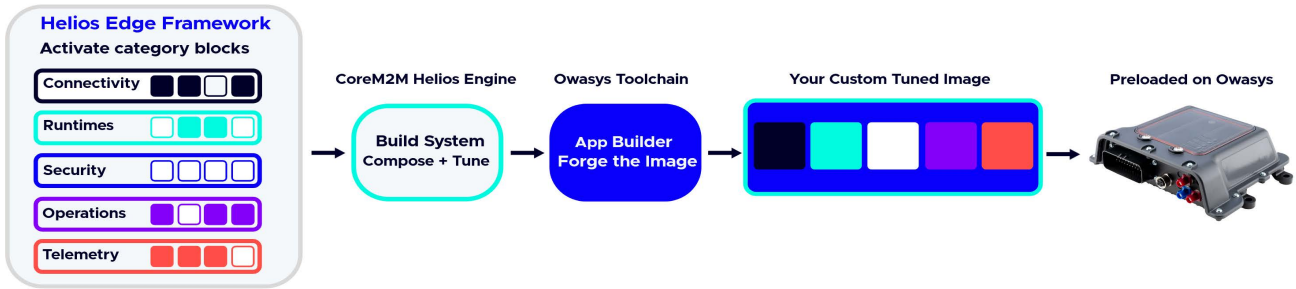
Where it pays off

- Heavy trucking:** Catch J1939 fault codes early and prove uptime, no cloud gateway needed
- Mining & construction:** Self-healing mesh links machines across the site, with telemetry held on-device where there is no network
- Agriculture:** Centimetre-accurate RTK navigation for auto-steer and precision field work
- Specialty fleets:** Decode any bus, add your own sensors, and diagnose from one on-device archive

Ask us about our Rapid MVP program to test Helios on Owasys today.

Customize Your Firmware Image

Select the modules required for your application. We build, tune, and deliver the image on an Owasys device.



Prove feasibility in days, not months. Accelerate your time to deployment.

Our advanced build system eliminates bloat, optimizes performance, and reduces your attack surface.

Connectivity

- ▶ **WiFi Client:** Join an existing WiFi network
- ▶ **WiFi Access Point:** Local WiFi hotspot for on-site setup
- ▶ **WiFi Mesh:** Self-healing WiFi covers full sites without fixed infrastructure [△](#)
- ▶ **Ethernet Gateway:** Bridges Ethernet devices to cellular
- ▶ **Serial-to-Network Bridge:** Reach a serial device over the network

Hardware Acceleration & AI

- ▶ **GPU Compute:** Offload image and math-heavy work to the GPU, freeing the CPU for your app
- ▶ **Hardware Video Encode/Decode:** Record or stream Full-HD video without loading the CPU
- ▶ **On-Device AI Inference:** Run on-device camera AI: object detection and classification, no cloud needed [△](#)

Application Runtimes

- ▶ **Python Runtime:** Run Python apps faster, no code changes
- ▶ **Node.js Runtime:** Run Node.js apps and services, tuned to fit
- ▶ **Node-RED:** Wire up automations visually, no code
- ▶ **Owasys Device Nodes (Node-RED):** Read the device's own telemetry straightH into your Node-RED flows: GPS position, device health (temps, voltages, H modem), cellular/connectivity, and CAN bus
- ▶ **.NET Runtime:** Run your .NET apps and services on the device
- ▶ **Docker:** Ship and update your apps as containers

Security

- ▶ **Security Baseline:** Blocks dangerous kernel options and surfaces every exception for review at build time [△](#)
- ▶ **Security Lockdown:** Strict lockdown for high-assurance deployments, removing attack-surface capabilities [△](#)
- ▶ **Kernel Security Stack:** The full kernel security toolkit: integrity measurement, signed modules, memory hardening [△](#)

Image Size & Cleanup

Cut 100+ MB for faster OTA and a smaller attack surface:

- ▶ **Rootfs:** Slim Rootfs · Strip Docs · Strip Package Tools
- ▶ **Kernel:** Trim Kernel Overhead · Trim Legacy Crypto · Trim Filesystems · Strip Virtualization
- ▶ **Drivers:** Strip Absent-Hardware Drivers · Strip Audio · Strip Display Drivers

Operations

Keep the device fast, resilient and observable:

- ▶ **System & Performance Tuning:** Compressed RAM Swap · Bufferbloat Control · Fair I/O Scheduling · Resource Pressure Monitor · Power Profiles
- ▶ **Reliability & Recovery:** Software Watchdog · Out-of-Memory Guard · OTA Updates with Rollback
- ▶ **Monitoring & Storage:** Data Usage Accounting · Flash Wear Monitor · SD Card Storage