



CAPABILITY DECK

Hardware. Firmware. Software. One engineering partner.

Custom IoT from schematic to cloud — designed, built and operated by a single team.

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// WHO WE ARE

One team, the whole stack.

FSS is a Polish engineering company building connected products end to end. We design the PCB, write the firmware, build the cloud backend and ship the app that controls it — under one roof, with one team accountable for the result.

No integration risk

Hardware, firmware, cloud and app are designed together, so the handover problems between vendors simply do not occur.

Production, not prototypes

OTA updates, secure boot, encrypted storage and audit logs are designed in from day one.

Poland-based, delivering globally

Engineering team in Bielsko-Biała, working with clients in hospitality, marine, industry and e-commerce.

// WHAT WE BUILD

Four layers, one continuous chain.

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|----|-----------------------------|---|
| 01 | Hardware | Schematic capture, multi-layer PCB layout, DFM review and prototype iteration. Boards designed for vibration, temperature extremes and marine environments. |
| 02 | Firmware | Bare-metal and RTOS firmware in C/C++ for ESP32, STM32 and custom silicon. Power-optimised, security-hardened, OTA-ready. |
| 03 | Cloud | Device-to-cloud pipelines over MQTT, HTTPS and WebSockets. Azure IoT Hub provisioning, certificate management and data routing. |
| 04 | Apps & analytics | Native iOS and Android companion apps, React dashboards, alerting, fleet management and reporting. |

What you can hire us for.

Connected devices

Custom IoT hardware with integrated firmware — from concept PCB to production-ready device.

Cloud infrastructure

Azure-native backends with telemetry pipelines, APIs, CI/CD and observability.

Mobile control

Native iOS and Android apps with BLE/Wi-Fi pairing and real-time device control.

Analytics & dashboards

React dashboards, threshold alerts, fleet management, scheduled reports and BI integration.

E-commerce systems

Headless storefronts, payments, ERP/PIM/WMS integrations, B2B and B2C flows.

Tech HR leasing

Senior embedded, backend and DevOps engineers embedded in your team.

// ALSO IN SCOPE

Beyond the device.

AI

Anomaly detection over telemetry, predictive maintenance, document intelligence and private assistants grounded in your data.

AI agents

Task-oriented automation wired into your existing systems and processes.

Integrations

ERP, PMS, payments and third-party APIs — including hospitality systems such as Opera, Mews and Apaleo.

QA & testing

Quality engineering for firmware, backend and apps, including hardware-in-the-loop scenarios.

DevOps

CI/CD pipelines, infrastructure-as-code, monitoring, alerting and incident response.

PCB assembly

SMT and THT assembly in-house — from prototype runs to series production.

// TECHNOLOGY

Our stack.

Proven chipsets and protocols we work with every day.

HARDWARE & EMBEDDED

ESP32

STM32

C / C++

FreeRTOS

Zephyr

PCB design

Secure boot

OTA

CONNECTIVITY

BLE

Zigbee

LoRa / LoRaWAN

Wi-Fi

LTE Cat-M1 / NB-IoT

MQTT

Modbus

OPC UA

CLOUD & BACKEND

Azure IoT Hub

Azure Functions

Event Hubs

Node.js

TypeScript

Python

.NET

Docker / K8s

FRONTEND, MOBILE & DATA

React

Vue.js

Next.js

iOS / Swift

Android / Kotlin

REST / WebSocket

OpenAPI

Power BI

// PROOF OF CAPABILITY

Products built on this stack.

These are engineering references, not separate brands — each one exercises the full FSS chain from PCB to cloud.

SERVICE CALL SYSTEM

GEST

FSS designs, sources components for and assembles GEST for YachtCloud. Custom IoT hardware with BLE and Wi-Fi, encrypted firmware, OTA updates and real-time staff routing.

A/V CONTROL

OMNIYON

Entertainment and comfort hub for yachts. Wi-Fi + BLE, multi-zone audio, streaming integration, climate and lighting control.

MARINE INFOTAINMENT

YIS

Onboard infotainment aggregating navigation data, vessel sensors and weather, with LTE connectivity and over-the-air updates.

SMART ACCESS CONTROL

Nuvlock

Connected access control built on the same hardware, firmware and cloud stack.

How we work together.

Fixed price

Defined scope, defined budget. Best when requirements are stable and the outcome is well described.

Time & material

Flexible scope with a dedicated team. Best for evolving products and longer roadmaps.

Team leasing

Our senior engineers join your team — remote, hybrid or on-site. You keep the knowledge.

Technology partnership

For founders and SMEs with a strong idea and a limited budget: we contribute engineering in exchange for a minority stake. Selective, case by case.

// NEXT STEP

Let's scope your device.

Send us a short description of what you are building. We will come back with questions, a realistic scope and the engineering risks worth knowing about early.

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