



Barnes Edge Intelligence (BEI) is BSS's dedicated service for building AI that runs directly on embedded hardware — enabling devices to make secure, real-time decisions even with no connectivity.

We transform sensors, cameras, controllers and industrial equipment into intelligent endpoints that operate reliably in the real world.

CORE CAPABILITIES

Custom AI Development

- Computer vision, OCR, biometrics, anomaly detection
- Audio/vibration/environmental analytics

Edge Optimisation / Deployment

- Quantisation, compression, latency tuning
- TFLite, ONNX, Edge Impulse, TensorRT

Embedded Integration

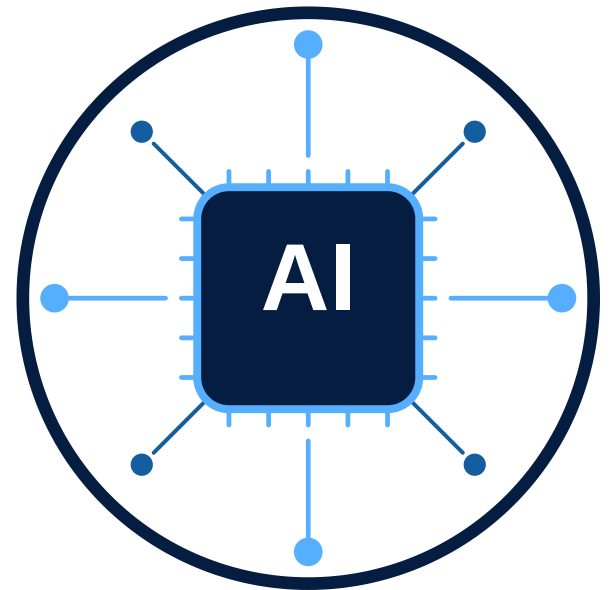
- STM32, Jetson, Qualcomm, NXP
- Firmware & real-time OS integration

Sensor Fusion

- Camera + IR + vibration + RFID + environmental signals

Hardware & PCB Design

- Reference board design
- On-device AI sensor integration



WHERE IT WORKS

Banking: ATM/ID verification, liveness detection, offline fraud checks

Access Control: On-device facial verification, anti-tailgating

Manufacturing: Visual defect detection, predictive maintenance

Retail & OEM: Shelf analytics, white-labelled AI modules

Agriculture & Utilities: Remote asset monitoring

WHY EDGE AI?

Real-time action: millisecond response, no cloud delay

Offline reliability: works even with poor connectivity

Lower cloud cost: stop streaming heavy video/sensor data

Stronger privacy: sensitive data stays on-device

Scalable & lightweight: runs on low-power chips

HOW WE DELIVER YOUR MINIMUM VIABLE PRODUCT

1. Discovery

Use case, hardware, environment & data audit

2. Data Preparation

Clean, label or collect depending on data readiness

3. Model Development

Train & optimise AI for edge hardware

4. Edge Integration

Firmware, sensors & device pipeline

5. MVP Delivery

Working proof-of-concept on real edge devices (2–5 weeks depending on data readiness)





BUILD. TEST. DEPLOY. SCALE YOUR END-TO-END EDGE AI PARTNER

OUR VALUE PROPOSITIONS

REAL-WORLD RELIABILITY

AI that works anywhere

LOWER OPERATING COST

Less cloud, less bandwidth

SECURITY & PRIVACY BY DESIGN

Data stays on-device

END-TO-END DELIVERY

One partner for model, firmware,
hardware and integration

FLEXIBLE ARCHITECTURE

Multi-sensor, multi-platform,
vendor agnostic

COMMERCIAL OPTIONS - REVENUE MODELS



PROJECT-BASED IMPLEMENTATION



PER-DEVICE LICENSING (FIRMWARE / MODEL)



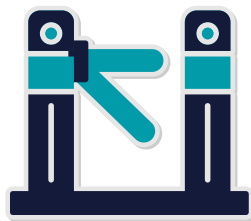
ANNUAL SUPPORT, UPDATES & MAINTENANCE

CUSTOMER EXAMPLES

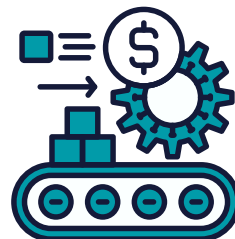
BANKING



ACCESS CONTROL



MANUFACTURING



RETAIL



WHY BSS AS YOUR EDGE AI PARTNER

- ✓ Proven expertise in embedded systems
- ✓ Deep experience with regulated industries
- ✓ Global rollout capability
- ✓ Enterprise-grade delivery standards
- ✓ Integration expertise across hardware & cloud



LET'S BUILD YOUR NEXT INTELLIGENT DEVICE

Work with Barnes Smart Solutions to bring real AI to the edge.

Securely - Privately - Reliably

