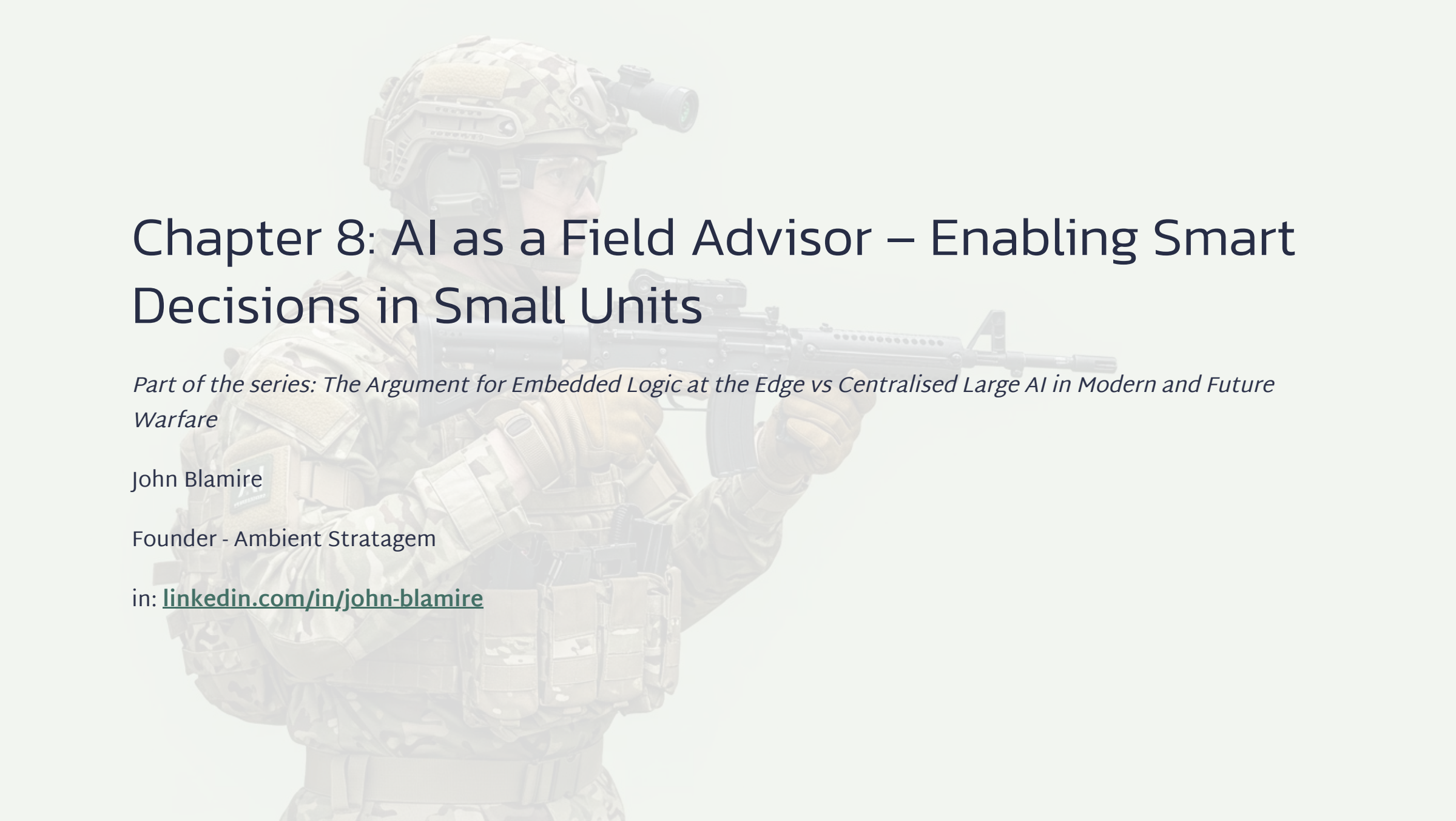

Chapter 8: AI as a Field Advisor – Enabling Smart Decisions in Small Units

Part of the series: The Argument for Embedded Logic at the Edge vs Centralised Large AI in Modern and Future Warfare

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Expert Perspective

> "What junior commanders need most is trusted advice at speed. If AI can provide that in contact, it becomes force multiplying." — UK MoD Tactical Innovation Lead, 2025

The Battlefield Reality

The vast majority of battlefield decisions are not made in headquarters—they are made by small units in dynamic, ambiguous, high-risk situations. These decisions often determine the success or failure of an entire mission. And yet, these moments are also the most underserved by traditional command structures and centralised AI models.

This chapter explores how embedded AI—configured as a real-time field advisor—can elevate the capability, confidence, and tempo of small tactical teams, without replacing their judgment or constraining their autonomy.

The Reality of the Small-Unit Fight

In modern conflicts, small units are routinely deployed with:

- Multiple simultaneous responsibilities: navigation, threat detection, C2, ISR, civilian interaction.
- Limited oversight or support: comms may be jammed, HQ may be distant, live updates may be delayed.
- High cognitive load and fatigue, especially in dismounted or asymmetric scenarios.

Despite technological progress, most decisions still rest on young, often overtasked human leaders—sergeants, corporals, lieutenants—who must weigh imperfect information against real-time threats.

> "We don't need AI to tell us what to do. We need it to tell us what we're missing."
> — NATO Pathfinder Team Commander, 2024

Centralised AI Cannot Keep Pace

Cloud-linked AI systems, even when connected, are not designed for:

- The chaos of close contact, where seconds matter and latency kills.
- Interpreting nuance, such as the difference between civilian gestures and hostile signals.
- Situational context, such as terrain, noise, posture, or emotional tone.

These systems are excellent at large-scale pattern recognition or operational intelligence—but they cannot reliably advise a squad clearing a building or a patrol responding to a surprise drone flyover.

Embedded AI as a Tactical Advisor

The alternative is embedded logic systems trained to serve as a responsive co-pilot for the warfighter. These systems:

- Fuse multiple inputs in real time (thermal, movement, radio intercept, voice cues).
- Match against mission-specific logic trees or preloaded behaviour models.
- Deliver actionable prompts, either visually, aurally, or haptically.

Key characteristics include:

- Low-latency inference: Sub-second reaction time is essential.
- Adaptability: The system learns as the mission evolves—new threats, new terrain.
- Operator control: All outputs are advisory, never mandatory. The human decides.

Examples:

- An infantry section leader receives a silent alert on a wrist-mounted device: "Multiple short-range IR signatures approaching rear quadrant—likely dismounts."
- A drone operator gets a prompt mid-mission: "Observed movement matches known tunnel entry pattern. Suggest IR overlay."
- A junior NCO in a denied environment speaks a query—"Any signatures north side?"—and receives a single-word reply: "Negative."

Doctrinal Opportunity: Training With Embedded Intelligence

For AI to be a credible advisor in the field, it must:

- Be integrated into unit training, not just deployed on operations.
- Be tunable by the operator, so it reflects personal style and team SOPs.
- Be treated as part of the team, not a separate capability.

NATO training centres are already experimenting with "AI-augmented force-on-force" scenarios, where embedded logic supports live-fire decisions—providing feedback, not control.

This builds trust, comfort, and capability in both directions: the AI learns the operator, and the operator learns to trust the AI.

Conclusion

Small units remain the tip of the spear in modern warfare. They face the greatest risk and carry the greatest responsibility—often with the least support.

Embedded AI, configured as a real-time advisor, can transform their effectiveness.

This is not about removing humans from the loop—it is about giving them the right input, at the right time, in the right form.

The result? A more confident decision-maker. A faster tempo. A smarter fight.

NEXT – Real-Time Decision Advantage for Human Operators – Conclusion & Call to Action