Olzh Tech – Capabilities Deck

Executive Summary

Olzh Tech develops software-defined autonomy and secure control systems for defense and dual-use applications.

Headquartered in Almaty and founded in 2025, we build modular control stacks, encrypted comms protocols, and perception

pipelines optimized for deployment across unmanned systems operating in complex, uncertain environments.

Our core mission is to deliver national software sovereignty - through interoperable, scalable, and independently

deployable AI-first platforms.

Core Capabilities

Autonomy Engine:

- Modular logic engine built in C++/Python with runtime adaptive pathfinding and reinforcement-based behavior trees.

Sensor Fusion Layer:

- Multi-modal input aggregator with probabilistic filtering and redundancy-aware switching across EO/IR, LIDAR, and GNSS.

Encrypted Comms:

- QUIC-based stateless multiplexing with full-stack AES-256 and support for failover edge relay.

Operator Interface SDK:

- Tactical dashboard architecture for real-time mission control and digital twin simulation.

Edge Logging + On-Device AI:

- Distributed inference runners with mission checkpointing and replay modules for post-mission forensics.

Deployment Scenarios

ISR Autonomy Kits:

- Lightweight deployable control systems for unmanned ISR drones operating in contested airspace.

Perimeter Defense Stack:

- Operator-less patrol logic with encrypted telemetry and automatic anomaly flagging.

Defense AI Sim Labs:

- Software sandbox for validating control logic, AI tuning, and simulated red team attack testing.

System Architecture

Built as a modular control plane for sovereign defense environments. Optimized for zero-cloud, real-time ops.

(See visual diagram in supporting documentation.)

Roadmap

2025 - Internal validation of core modules and early integrator sandbox demos

2026 - Expansion of comms and SDK toolkits; begin live simulations and hardware-in-the-loop testing

2027 - Partnership pilots with European integrators and MENA-region resellers

2028 - Formal SDK release and government lab white-labeling program

Contact

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PDF: Technical Whitepaper Available Upon Request