VICTUS

PhantomNAV™

SYNTHETIC GPS FOR CONTESTED AUTONOMY

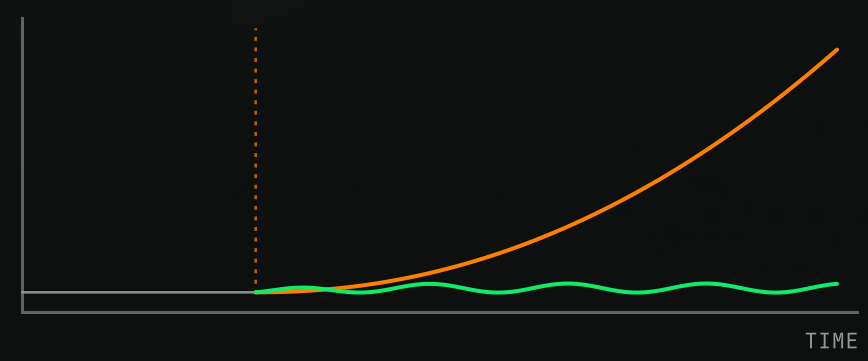
PhantomNAV™ is our patent-pending Machine Learning State Estimator (MLSE) for Contested Autonomy in GPS-denied environments. A sim-to-real machine-learning pipeline trains domain-specific inertial navigation models in high-fidelity simulation, then deploys lightweight inference packages to commodity edge compute. Models broadcast position corrections to the autopilot over MAVLink or other protocol. Single platform across air and maritime today, with subsea, ground, and orbit on the roadmap. Vendor-agnostic. No GNSS reliance at runtime.

POSITION CORRECTIONS — ILLUSTRATIVE



PhantomNAV™ — Unaided dead reckoning

POSITION ERROR



INERTIAL ONLY — WITH PHANTOMNAV

01 CORE CAPABILITIES

Sim-To-Real

- VICTUS PhantomNOISE bridges simulation and hardware noise profiles.
- Models trained in sim transfer cleanly to live platforms.

Multi-Domain

- Single platform spans air and marine.
- Pluggable architecture extends to subsea and ground (roadmap).

Edge-Deployed

- ONNX inference on commodity ARM compute.
- Real-time at 10–50+ Hz with sub-100 ms latency.

Autopilot-Native

- MAVLink position-correction broadcast.
- ArduPilot primary, PX4 supported.
- Open Architecture and vendor-agnostic.

02 INTEGRATION FLOW

STEP 01
Configure
Ontology-driven mission and scenario configuration on enterprise data platform.

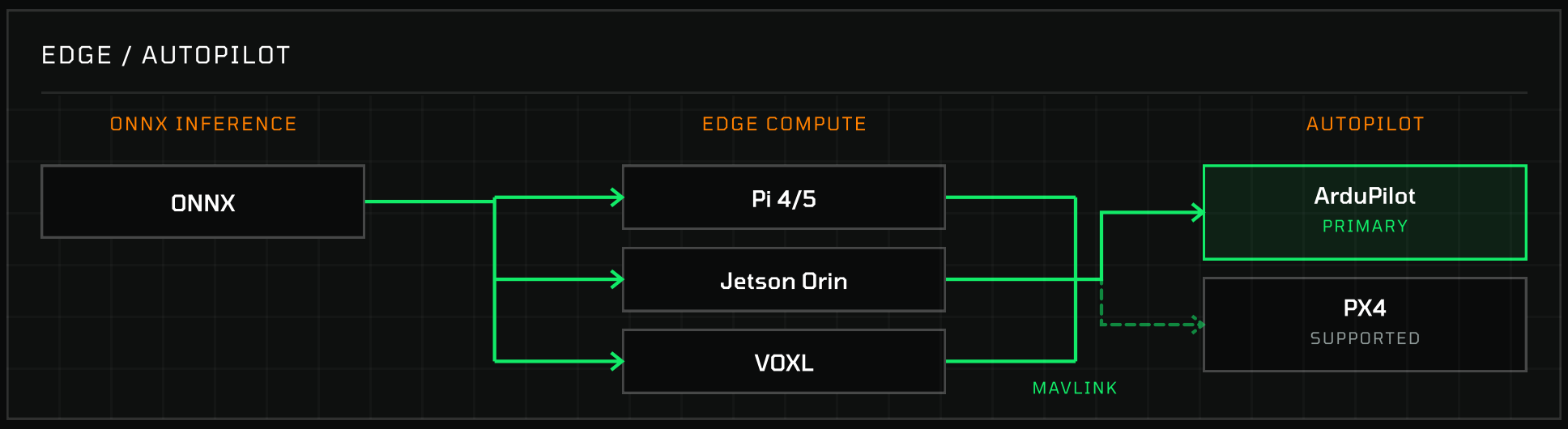
STEP 02
Simulate
PhantomSIM runs high-fidelity, multi-domain simulation across air and marine.

STEP 03
Train
PhantomNOISE applies real hardware noise profiles to sim data; temporal ML model trains.

STEP 04
Deploy
ONNX inference package pushed to edge compute (Pi 4/5, Jetson Orin, VOXL, etc).

STEP 05
Navigate
Real-time position corrections broadcast to autopilot via MAVLink. No GNSS required.

© VICTUS Technologies, Inc. (CAGE: 9UH37)



03 COMPLETED INTEGRATIONS





HOST PLATFORM REQUIREMENTS

COMPUTE	Pi 4 (8 GB) min | Pi 5 / Jetson Orin / VOXL
CPU	ARM Cortex-A72 quad-core @ 1.5 GHz
SENSING	Triple-redundant IMU (e.g., Cube Orange)
INFERENCE	10–50+ Hz, < 100 ms latency
AUTOPILOT	ArduPilot (primary) | PX4 (supported) | OSA / MOSA
INTERFACE	MAVLink position correction broadcast | OSA / MOSA
DOMAINS	Air | Maritime | Subsea | Ground | Orbit

PLATFORM APPLICABILITY

AIR CURRENT	MARITIME CURRENT	SUBSEA ROADMAP
GROUND IN PROCESS	ORBIT ROADMAP	

Single ML pipeline — pluggable simulator architecture extends to additional platforms without re-architecting the data or training stack.

CONTACT US

info@getvictus.ai

getvictus.si

■ NEXT STEP: SCHEDULE A CAPABILITY BRIEF →

© VICTUS Technologies, Inc. (CAGE: 9UH37)