

AMORPHOUS[™]

Open multi-domain and multi-agent C2 and software platform for collaborative autonomy at scale

The scale and complexity of autonomous missions require the ability to coordinate thousands of assets in challenging environments through an intuitive and distributed command and control (C2) interface. Autonomous Multi-domain Operations Resiliency Platform for Heterogeneous Unmanned Swarms (AMORPHOUS) is an open-architecture advanced platform specifically designed for a single user to command and control multi-domain collaborative autonomous assets at the scale, complexity and pace needed to provide mission overmatch.

OPEN ARCHITECTURE BY DESIGN

AMORPHOUS' open architecture ensures maximum flexibility and interoperability, making it simple to connect different platforms, payloads and systems made by various providers, into mission-capable solutions. AMORPHOUS supports rapid integration of algorithms and models from third-party systems to avoid stovepipe solutions and provides the latest cutting-edge technology. AMORPHOUS also has the ability to update and deploy models to ensure it keeps pace with emerging threats.

SCALABLE FOR COMPLEX MISSIONS

From small fleets to large-scale operations, AMORPHOUS can seamlessly command and control a vast array of autonomous

assets to accomplish complex missions using a "system of systems" approach. AMORPHOUS can autonomously manage and coordinate heterogeneous unmanned platforms at an unmatched scale, simultaneously operating hundreds – or even thousands – of autonomous assets.

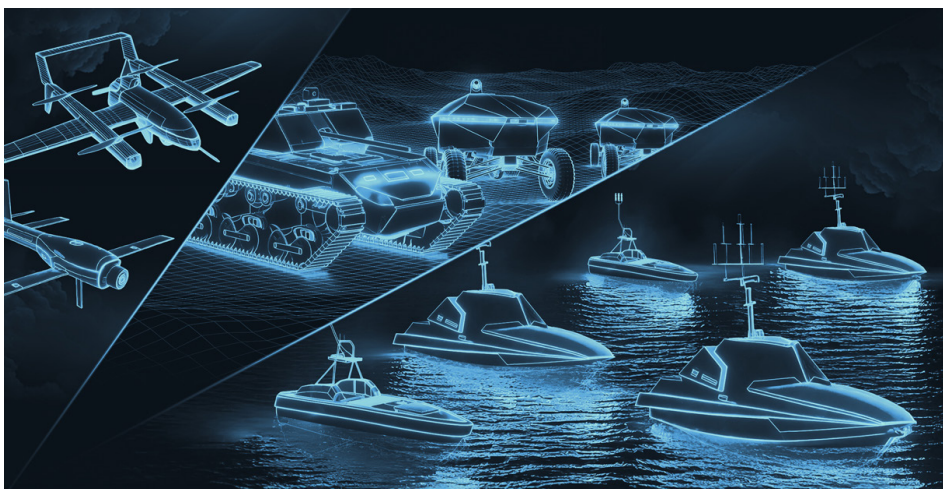
MULTI-DOMAIN & MULTI-MISSION

AMORPHOUS is engineered to be a multi-domain, multi-mission capable platform, designed to operate seamlessly across space, air, land, sea and cyber environments. This versatility enables the coordination of heterogeneous unmanned swarms for a wide array of missions, from persistent intelligence, surveillance and reconnaissance (ISR) to complex



FEATURES

- > Open-architecture by design
- > Scalable to hundreds and even thousands of assets
- > Sensor processing and fusion
- > Sensor resource management
- > Removes complexity and cognitive overload
- > Dynamic planning and tasking
- > Easily integrates with any unmanned platform
- > Resilient framework ensures mission success in degraded environments
- > Transferable control enables true distributed C2



electronic warfare and precise kinetic effects. The system's robust architecture allows for rapid reconfiguration and tasking of assets, ensuring that operators can adapt to diverse mission requirements in real-time and apply mass robotic force, when needed.

RESILIENT OPERATION

The ability to operate in anti-access environments will be critical for mission success. AMORPHOUS provides intelligent processing of information to ensure autonomous assets can complete their task in the most challenging of environments.

DISTRIBUTED EDGE AUTONOMY

AMORPHOUS provides decentralized decision making, enabling individual unmanned assets to autonomously perform complex tasks and make real-time tactical decisions at the edge.

MISSION FOCUSED

The ability to adapt to rapid and complex situations is key to countering threats. AMORPHOUS leverages operations analysis, modeling and simulation to develop autonomous behavior and tactics that can be deployed at machine speed. Mission plans can be easily developed and dynamically adjusted based on current situations or prior outcomes.

SINGLE USER OPERATION

AMORPHOUS offers distributed tasking and control of collaborative vehicles at scale while minimizing cognitive burden. AMORPHOUS provides the necessary tools to command swarms, monitor missions and maintain comprehensive situation awareness all from a single user. Its distributed C2 design enables multiple users to monitor and control collaborative operations with the ability to hand over control.

APPLICATIONS

- > Autonomous intelligence, surveillance, reconnaissance and targeting
- > Swarming kinetic and non-kinetic effects for penetration
- > Collaborative electromagnetic spectrum operations
- > Autonomous breaching



OPEN ARCHITECTURE

Open architecture offers flexibility and interoperability, easily integrating diverse platforms and systems for mission-ready solutions



SCALABILITY

From small fleets to large-scale operations, AMORPHOUS provides resilient, seamless command and control of hundreds – and even thousands – of autonomous assets



MULTI-DOMAIN

AMORPHOUS is engineered to be a multi-domain, multi-mission capable platform, designed to operate and collaborate across space, air, land, sea and cyber environments

AMORPHOUS™ (DOD)

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