

OSAN AERION-X

MALE+ HYBRID ISR / STRIKE AUTONOMOUS AERIAL PLATFORM



OSAN AERION-X is a next-generation MALE+ class unmanned aerial system engineered for extended endurance, multi-role mission execution, and AI-assisted battlefield integration.

Designed as a hybrid ISR and precision strike platform, AERION-X integrates advanced avionics, distributed payload architecture, and autonomous operational capability into a single high-efficiency aerial system.

MULTI-ROLE ISR + STRIKE PLATFORM

HYBRID PROPULSION ARCHITECTURE

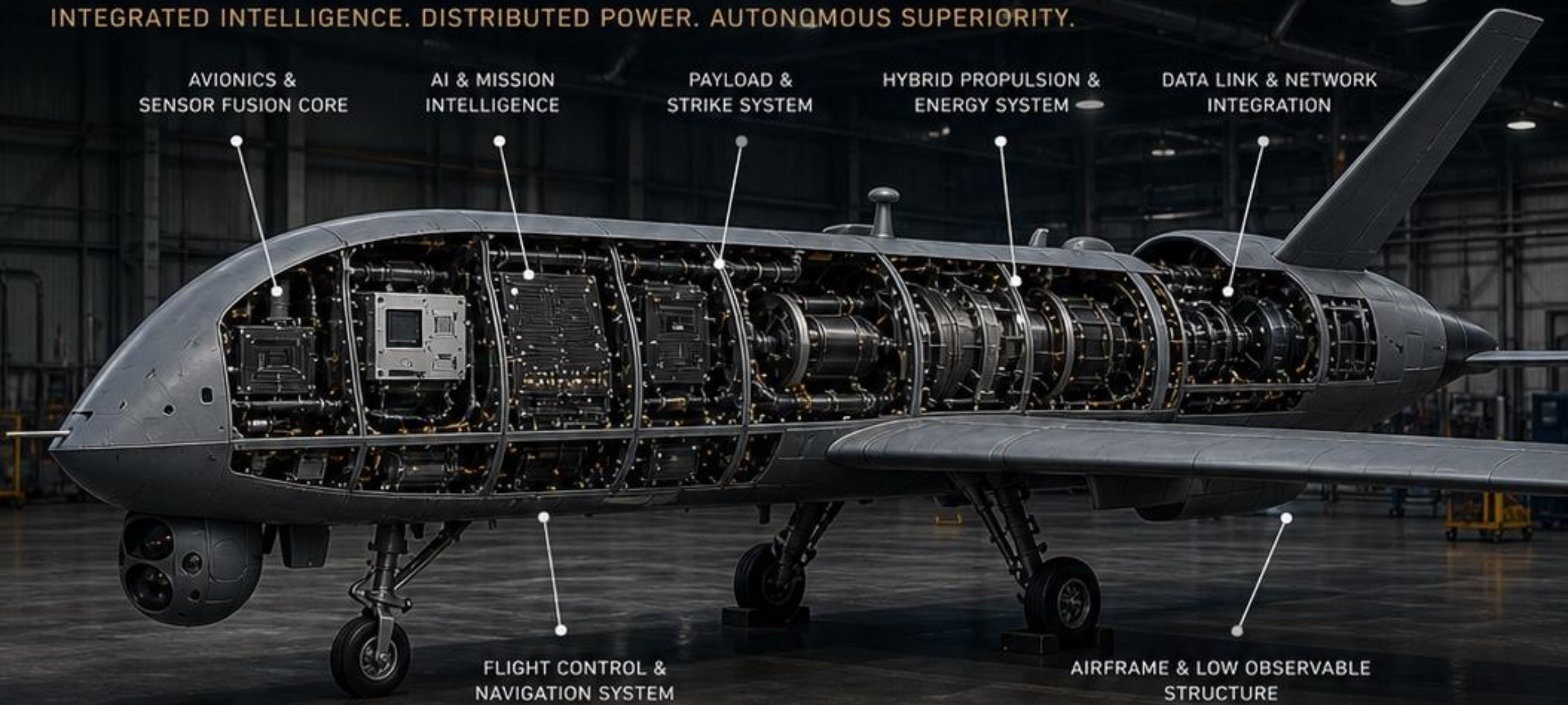
AI-SUPPORTED MISSION EXECUTION

EXTENDED ENDURANCE OPERATIONAL PROFILE

MULTI-DOMAIN BATTLEFIELD INTEGRATION

SYSTEM ARCHITECTURE

INTEGRATED INTELLIGENCE. DISTRIBUTED POWER. AUTONOMOUS SUPERIORITY.



1. AIRFRAME & LOW OBSERVABLE STRUCTURE

- Blended wing-body aerodynamic configuration
- Low observable composite material structure
- Radar absorbent multi-layer surface
- Infrared signature suppression via exhaust mixing channel
- Internal load-distribution optimized frame
- Multi-bay payload compartment integration

2. HYBRID PROPULSION & ENERGY SYSTEM

- Hybrid propulsion architecture
- Turbocharged heavy fuel engine
- Electric assist module (silent ISR mode)
- AI-based engine load optimization
- Adaptive power distribution control
- Fuel efficiency optimized endurance profile
- Dual-layer electrical bus architecture

3. AVIONICS & SENSOR FUSION CORE

- AESA Radar System
- SAR (Synthetic Aperture Radar)
- GMTI (Ground Moving Target Indicator)
- EO/IR Multi-Spectral System
- HD optical sensor
- MWIR thermal imaging
- Laser designation module
- Passive RF Detection Module
- Signal detection & classification
- Real-time multi-sensor fusion engine
- AI-based target classification & filtering

4. FLIGHT CONTROL & NAVIGATION SYSTEM

- Triple-redundant fly-by-wire control system
- AI-assisted flight stabilization
- Terrain-referenced navigation system
- GPS-denied operational capability
- Anti-jamming GNSS architecture
- Autonomous return-to-base logic

5. DATA LINK & NETWORK INTEGRATION

- Dual-channel communication system
 - SATCOM
 - Line-of-Sight (LOS)
- Encrypted real-time data transmission
- Mesh network relay capability
- Multi-platform battlefield integration
- Redundant communication fallback architecture

6. PAYLOAD & STRIKE SYSTEM

- 6-point distributed hardpoint system
- Modular payload integration
- Simultaneous ISR + strike capability

Supported payloads:

- ISR modules
- Precision-guided micro munitions
- Loitering strike systems

7. AI & MISSION INTELLIGENCE

- Onboard AI processing unit
- Real-time target recognition
- Autonomous mission adaptation
- Multi-target tracking capability
- Decision-support mission logic
- Threat-aware dynamic route optimization

PERFORMANCE & FLIGHT ENVELOPE

Operational Efficiency Defined by Endurance, Precision, and Control.



1. FLIGHT PERFORMANCE

Maximum Takeoff Weight	1,920 kg
Payload Capacity	420 kg
Endurance	38 hours (standard) / 42 hours (eco profile)
Service Ceiling	34,000 ft
Cruise Speed	135 knots
Dash Speed	240 knots

2. OPERATIONAL CAPABILITY

- Multi-role ISR + Strike platform
- Simultaneous mission execution capability
- Autonomous mission adaptation
- GPS-denied operational capability
- Multi-target tracking capability

3. MISSION PROFILE FLEXIBILITY

- Long endurance surveillance missions
- Precision strike support operations
- Multi-domain battlefield integration
- Persistent ISR coverage
- Dynamic re-tasking capability

4. SYSTEM PERFORMANCE ADVANTAGES

- Hybrid propulsion fuel optimization
- Reduced thermal signature profile
- AI-assisted flight efficiency
- Extended operational radius capability
- High-altitude stability

MISSION CAPABILITY FRAMEWORK

Operational Versatility Across Multi-Domain Mission Environments.



1. INTELLIGENCE, SURVEILLANCE & RECONNAISSANCE (ISR)

- Long-endurance surveillance missions
- Persistent ISR coverage
- Multi-target tracking capability
- Real-time target recognition

2. PRECISION STRIKE SUPPORT

- Precision-guided micro munitions deployment
- Simultaneous ISR + strike capability
- Laser designation support
- Target confirmation & tracking

3. MULTI-DOMAIN BATTLEFIELD INTEGRATION

- Integrated operation with ground control systems
- Network-based data sharing
- Real-time mission coordination
- Multi-platform operational synchronization

4. CONTESTED ENVIRONMENT OPERATIONS

- GPS-denied operational capability
- Anti-jamming GNSS architecture
- Autonomous mission adaptation
- Secure data link communication

5. PERSISTENT AREA DOMINANCE

- Extended endurance operational capability
- High-altitude stability
- Continuous surveillance presence
- Dynamic re-tasking capability

TECHNICAL SPECIFICATIONS

Defined by Precision. Validated by Engineering.



1. GENERAL PLATFORM DATA

- Platform Class : MALE+ Hybrid ISR / Strike Autonomous Aerial Platform
- Maximum Takeoff Weight : 1,920 kg
- Payload Capacity : 420 kg

2. FLIGHT PERFORMANCE

- Endurance : 38 hours (standard) / 42 hours (eco profile)
- Service Ceiling : 34,000 ft
- Cruise Speed : 135 knots
- Dash Speed : 240 knots

3. PROPULSION SYSTEM

- Hybrid propulsion architecture
- Turbocharged heavy fuel engine
- Electric assist module (silent ISR mode)
- AI-based engine load optimization
- Adaptive power distribution control

4. AVIONICS & SENSOR SYSTEM

- AESA Radar System (SAR / GMTI)
- EO/IR Multi-Spectral System
- HD optical sensor
- MWIR thermal imaging
- Laser designation module
- Passive RF Detection Module

5. COMMUNICATION & DATA LINK

- Dual-channel communication system (SATCOM / Line-of-Sight (LOS))
- Encrypted real-time data transmission
- Mesh network relay capability

6. CONTROL & NAVIGATION

- Triple-redundant fly-by-wire control system
- Terrain-referenced navigation
- GPS-denied operational capability
- Anti-jamming GNSS architecture

7. AI & MISSION SYSTEM

- Onboard AI processing unit
- Real-time target recognition
- Autonomous mission adaptation
- Multi-target tracking capability

8. STRUCTURAL & MATERIAL

- Low observable composite material structure
- Radar absorbent multi-layer surface
- Infrared signature suppression system

PAYLOAD CONFIGURATION & STRIKE SYSTEMS

Modular Payload Architecture Enabling
Multi-Role Operational Flexibility.



1. PAYLOAD ARCHITECTURE

- 6-point distributed hardpoint system
- Modular payload integration
- Independent payload control channels
- Simultaneous multi-payload operation capability

2. ISR PAYLOAD SYSTEMS

- EO/IR Multi-Spectral Sensor Suite
- HD Optical Imaging System
- MWIR Thermal Imaging
- Laser Designation Module
- Passive RF Detection Module
- Real-time multi-sensor fusion support

3. STRIKE CAPABILITY

- Precision-guided micro munitions integration
- Loitering strike system compatibility
- Target tracking & engagement synchronization
- ISR-supported strike execution

4. PAYLOAD FLEXIBILITY

- Rapid payload reconfiguration capability
- Mission-specific payload configuration
- Simultaneous ISR + strike deployment
- Multi-role operational adaptability

5. MISSION INTEGRATION

- AI-assisted payload management
- Real-time targeting data integration
- Multi-platform coordination capability
- Dynamic mission reconfiguration

SYSTEM MODULARITY & INTEGRATION

Distributed Architecture Enabling Scalable, Adaptive Mission Execution



1. MODULAR SYSTEM ARCHITECTURE

- Distributed system architecture
- Independent subsystem modules
- Scalable integration framework
- Plug-and-play payload compatibility

2. MISSION SYSTEM INTEGRATION

- Real-time sensor data fusion
- AI-assisted decision-making architecture
- Target recognition and tracking integration
- ISR and strike synchronization

3. COMMUNICATION INTEGRATION

- Dual-channel communication architecture
- SATCOM and Line-of-Sight (LOS) integration
- Secure encrypted data exchange
- Mesh network operational support

4. CONTROL SYSTEM SYNCHRONIZATION

- Flight control and payload synchronization
- Real-time mission control integration
- Autonomous navigation coordination
- Redundant control architecture

5. AI-DRIVEN SYSTEM MANAGEMENT

- Onboard AI processing integration
- Dynamic mission adaptation
- Multi-target tracking optimization
- Threat-aware route management

OSAN DEFENSE INDUSTRY

Advanced Defense Systems. Engineered for Precision.



OSAN Defense Industry operates as an integrated defense platform focused on the design, development, and production of advanced aerial systems and mission-critical technologies.

The organization combines engineering-driven development with scalable manufacturing infrastructure, enabling the delivery of reliable, high-performance systems across multiple operational environments.

CORE CAPABILITIES

- Advanced unmanned aerial systems development
- Integrated mission system engineering
- AI-supported defense technologies
- Scalable production and system integration

GLOBAL POSITIONING

OSAN Defense Industry maintains an international operational structure, supporting multi-region deployment capability and cross-platform system integration.

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