

LAND DEFENSE

NAVIGATION & POINTING



exail





Exail, a global leader in land navigation & pointing

Trusted by dozens of partners worldwide, Exail delivers advanced inertial solutions engineered for resilient, secure, and precise land operations.

Specializing in Positioning, Navigation, and Timing (PNT), Exail's technology performs decisively in GNSS-contested or denied environments. Its robust systems provide unmatched precision in navigation, accurate pointing, and seamless integration across a diverse range of military platforms, from tactical vehicles to long-range artillery. These capabilities enhance mission resilience, operational readiness, and strategic advantage on the modern battlefield. Backed by over 30 years of expertise in Fiber Optic Gyroscope (FOG) technology, Exail supports thousands of platforms worldwide. The company's proven technology portfolio contributes to annual revenue exceeding \$400 million, underscoring its leadership and innovation in PNT solutions.

RESILIENT NAVIGATION

RELIABLE POSITIONING WITHOUT GNSS

Advans Series delivers precise navigation resilient to jamming and spoofing, enabling confident operations without satellite signals anywhere.

BUILT FOR HARSH CONDITIONS

Built to perform from -46 to +71°C and endure shocks and vibrations, ensuring mission continuity in extreme conditions.

FAST DEPLOYMENT, MINIMAL TRAINING

Field-ready and easy to operate, requires minimal training, and can be installed by battalion teams—no rear support needed.

SEAMLESS INTEGRATION

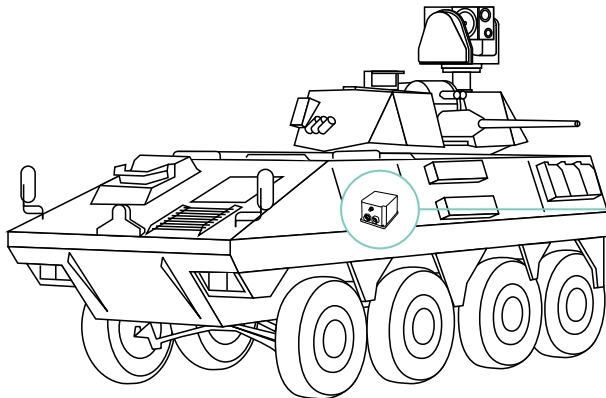
Open protocols enable easy integration with vehicles, battle management, and fire control systems, reducing setup time.

REAL-TIME TACTICAL ADVANTAGE

Fast 30-sec alignment, low drift, and real-time processing support quick, accurate decisions for safer, more effective missions.

SCALABLE AND COST-EFFICIENT

High-end inertial performance with low maintenance and competitive cost, ideal for wide fleet deployment.



drift
**UP TO
0.1% DT**

On the battlefield, Advans Series delivers accurate vehicle positioning and heading despite jamming or spoofing. With 0.1% drift, forces confidently navigate long missions without signals. Compact, rugged, and maintenance-free, it is built for frontline mobility.

ASSURED PNT IN GNSS-DENIED ENVIRONMENTS

Built upon Fiber-Optic Gyroscope (FOG) technology, Exail Advans Series inertial navigation systems (INS) deliver precise, north-finding navigation and pointing, even when GNSS signals are denied or unavailable. Optimized for SWaP-C and fully ITAR-free, these scalable systems support a wide range of land platforms, ensuring continuous mission effectiveness in the most challenging operational environments.

UNINTERRUPTED MISSION SUPPORT

In complex and contested environments, uninterrupted navigation and targeting data are critical. Advans Series INS deliver high-precision positioning and orientation, ensuring forces can maneuver, coordinate, and engage effectively, regardless of GNSS availability. Fast alignment and seamless integration enable continuous operations across all terrains and threat conditions.

VERSATILITY ACROSS ALL MISSION PROFILES

Whether supporting reconnaissance, fire support, or armored engagements, Advans Series INS integrate smoothly across manned and unmanned platforms, light vehicles, tactical assets, or heavy armored systems. This versatility guarantees the precision and reliability needed to succeed in any land defense mission.

KEY BENEFITS FOR LAND FORCES

MAINTAINS PRECISE NAVIGATION

and targeting even without GNSS

DEPLOYS QUICKLY

with fast system alignment and integration

RUGGED, LOW-MAINTENANCE INS

built for battlefield conditions

ENSURES MISSION CONTINUITY

in GNSS-denied, contested, or harsh environments

OPERATES CONFIDENTLY

across all vehicle types and mission profiles

LIGHTWEIGHT AND POWER-EFFICIENT

systems



Advans Ursa

Cost-effective INS for tactical vehicles, providing resilient navigation and GNSS backup



Advans Lyra

Premium INS with fast alignment and precise pointing, for dynamic platforms



Advans Vega

High-precision INS for sensors and fire control systems needing top accuracy

Horizontal position (without GNSS)	0.4 % DT	0.2 % DT	0.1 % DT
Heading	4 mils	1 mil	0.5 mil
Alignment time	< 2 min	< 2 min	< 2 min
Qualification	-46 °C to +71 °C	-46 °C to +71 °C	-46 °C to +71 °C
Volume	166 x 160 x 136 mm	275 x 136 x 150 mm	180 x 180 x 162 mm
Weight	3.8 kg	4.5 kg	5 kg



View full technical specs and video of Exail's land defense solutions.

ACCURATE POINTING

ACCURATE POINTING ON THE MOVE

Maintains precise alignment and pointing accuracy on the move for reliable targeting during fast-paced operations.

RAPID ENGAGEMENT

Advans Series initializes quickly and processes targeting data in real time for fast, accurate threat responses.

CONSTANT OPERATIONAL READINESS

Keeps sensors aligned from unprepared positions, minimizing delays and preserving mission tempo.

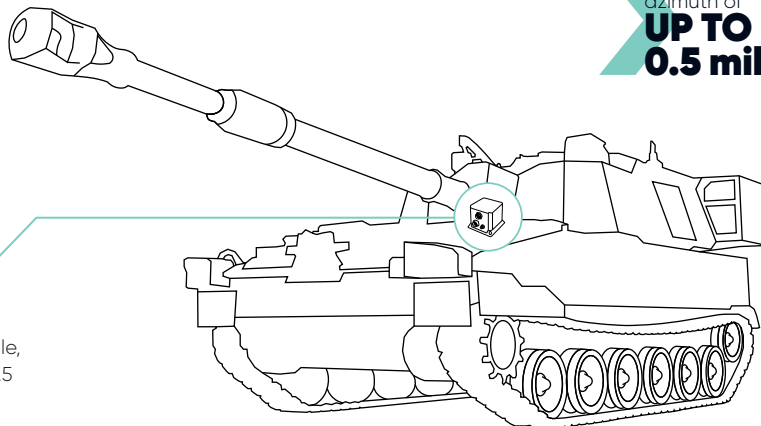
RELIABLE IN ANY ENVIRONMENT

Delivers stable pointing, whether stationary or moving, even in extreme climates and high latitudes.

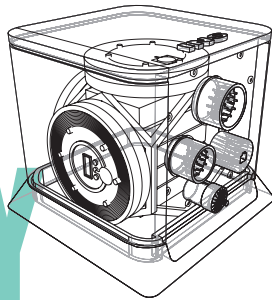
COMBAT-PROVEN ACROSS PLATFORMS

Combat-proven reliability and open protocols enable easy integration across vehicle weapons, mobile artillery, and ground sensors.

From artillery to surveillance, Advans Series enhances the capabilities of vehicle-mounted and ground weapon systems. It provides versatile, reliable solutions with azimuth precision up to 0.5 mil to meet diverse accuracy requirements.



azimuth of
**UP TO
0.5 mil**



WHY CHOOSE FIBER OPTIC GYROSCOPES?

1

Mission-critical precision

Advanced algorithms and sensors deliver ultra-accurate heading and positioning, vital for targeting, troop formation, and GNSS-denied land operations.

2

Robust & cost-effective

With no moving parts, FOGs eliminate friction and wear, offering unique durability and the lowest low total cost of ownership.

3

Extreme environment ready

FOGs withstand shocks, extreme temperatures, magnetism, and vibrations, and are built to perform reliably in armored vehicles, artillery, and rugged terrain.

5

Combat-proven and trusted worldwide

Chosen by dozens of partners worldwide, Exail's battle-tested FOG solutions have delivered mission-critical precision and reliable performance for over 30 years.

4

Unmatched reliability through technology mastery

Exail's expertise and R&D investment in fibers, sensors, and hardware continuously push FOG performance higher.



Learn more
about Exail
FOG technology

