exail

STABILIZED PLATFORMS

exail at a glance

30
YEARS OF EXPERIENCE

250+
MILLION EUROS OF TURNOVER

80%
OF TURNOVER ACHIEVED ABROAD

1500+
EMPLOYEES

30K+
FIBER-OPTIC GYROSCOPES SOLD

20%
OF TURNOVER REINVESTED EACH YEAR IN R&D

70+
NAVIES AND ARMIES SERVED

DELIVERING OVER
500
CUSTOMERS EVERY YEAR

24/7
TECHNICAL SUPPORT

With over 30 years in mechatronic expertise for motion simulators, Exail is a leader in platform stabilization solutions for optronic, radar, antennas and weapon systems.

Industrial excellence

Exail leverages the most advanced, proven technologies and implement critical systems only when they reach full technological maturity through intense tests and trials. In addition, Exail designs its systems to achieve the lowest maintenance requirements.
All of our off-the-shelf stabilized platforms are ITAR-free and in order to minimize the costs, cutting-edge hardware as well as COTS software are used as often as possible.

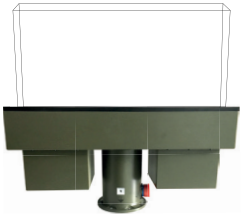
Performance and robustness

Exail refuses to compromise on technology when it comes to choosing between performance and the critical requirements of terrestrial use. Significant investments in R&D allow Exail's solutions to meet the highest Line Of Sight (LOS) accuracy while being compatible with the most extreme operating conditions.

Scalability and ease-of-use

Exail's systems have strong hardware, software and interface commonalities, allowing for great savings in terms of integration, installation, configuration management, logistics, training and maintenance costs. This results in a greater flexibility to dimension the product according to the payload type, weight and size.

A COMPLETE RANGE OF STABILIZED PLATFORMS



Osiris

Single-axis gyrostabilized platform for RF flat panels

Used for both surveillance and communication applications, Osiris ensures panoramic reconnaissance capability by providing quick rotation and fixed positioning of AESA RADAR antennas.

Main characteristics & performance	1-axes
Gyrostabilized Line-Of-Sight	< 1 mrad
Type of payload	In one piece
Nominal payload (ground fixed system) (up to/kg)	50
Nominal payload (ground mobile system) (up to/kg)	30
Position accuracy	Azimuth ≤ 0.01°
Angular speed (up to °/sec)	180
Angular acceleration (up to °/sec)	200
Dimensions (L x l x H in mm)	550 x 220 x 290
Weight (kg)	18

Stab Ceos

Two-axis gyrostabilized platform for single payload

Used for situational awareness, security and surveillance applications, Ceos light-weight platform guarantees sharp images and/or videos by providing reliable stabilization to the most modern medium-weight integrated optical sensors packages.

Stab Neos

Two-axis gyrostabilized platform for multiple payloads

Used for situational awareness, security and surveillance applications, Neos offers a versatile platform that enables multiple optical sensors packages to provide sharp images and/or videos.

2-axes	2-axes
< 1 mrad	< 1 mrad
In one piece	One, two or three pieces
30	60
15	40
Azimuth ≤ 0.05° Elevation ≤ 0.01°	≤ 0.01°
60	60
60	90
320 x 165 x 385 (without arm)	285 x 230 x 535 (with bridge)
< 13	< 25

Stab Leos Series

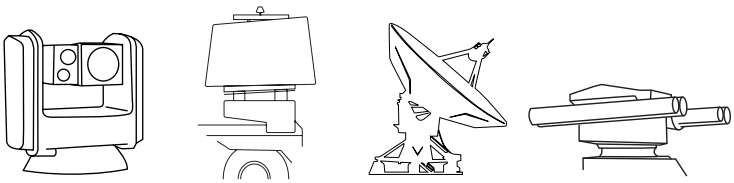
Highly accurate two-axis gyrostabilized platform for optronic sensors

Used for observation, reconnaissance and targeting applications, Leos achieves ultimate Line-Of-Sight stabilization. Thanks to the integration of high-grade gyroscopes coupled to advanced algorithms, Leos maintains medium-weight optronic sensors' performance, detection, reconnaissance and identification capabilities. As of today, two models are available and provide various degrees of gyrostabilization according to customers' needs.

Leos S5	Leos S6	Leos L5	Leos L7
2-axes	2-axes	2-axes	2-axes
< 100 µrad	< 100 µrad (with low drift MEMS gyro)	< 100 µrad	< 20 µrad (with FOG gyro)
In one piece	In one piece	In one piece	In one piece
25	25	40	40
•	•	20	20
≤ 0.01°	≤ 0.01°	≤ 0.01°	≤ 0.01°
115	115	120	120
115	115	150	150
Ext ø 379 x 365 Intrusion ø 120 x 135	Ext ø 379 x 365 Intrusion ø 120 x 135	Diameter 530 x 540	Diameter 530 x 540
< 25	< 25	< 46	< 46

HIGHLY SCALABLE AND VERSATILE SOLUTIONS

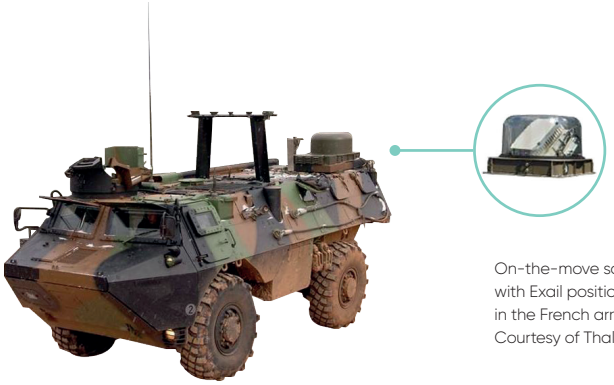
Designed for all applications



Optronics | Radars | Antennas | Weapons

Off-the-shelf or tailor-made

Our stabilized platforms are trusted by numerous armies and navies worldwide. They have been used for operations in diverse and harsh environments, such as the arid and steep terrains of Afghanistan, where Exail brought its gyrostabilization expertise to Thales Communication and Security, by delivering over 30 hybrid orientation systems, including an Antenna Control Unit (ACU) and a positioner. The challenge was to create a perfect mechanic and electronic symbiosis able to ensure the beam pointing around the azimuthal axis with high bandwidth and low friction.



On-the-move satellite communication with Exail positioning system operating in the French army.
Courtesy of Thales.

OEM Equipment

Exail's rugged Motion Controllers and servo-Drive Units provide position, rate and gyrostabilization for two axis platforms. The MCDU family is based on modular architecture with filter boards, controllers and servo-drive units compatible with a wide range of motors (DC, BLDC or BLAC type). Communication is ensured by serial link and iXlink protocol at refresh rate up to 1 kHz. Reliability and long lifetime with short circuit, over speed, temperature limit, position/rate/acceleration limits. The control algorithms are based on the latest Exail developments protected by several patents.

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FACILITIES IN FRANCE

A GLOBAL FOOTPRINT

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