

# Ekinox Land Solution



ALL-IN-ONE  
INERTIAL NAVIGATION SOLUTION  
with Odometer and RTK GNSS



**EKINOX LAND SOLUTION** GPS positioning in urban canyons, forest, or tunnel has always been challenging. By taking the best of complementary technologies, Ekinox Land Solution provides accurate positioning in a cost-effective package.



# Real-Time Positioning and Orientation



## Cost-effective Solution

Ekinox Series is a range of inertial navigation systems based on the robust and cost-effective MEMS technology. In land applications, GPS signal may be disrupted. The combination of Ekinox Inertial Navigation System with complementary technologies such as wheel speed sensor and RTK GNSS is

the key to provide smooth vehicle positioning, even in urban canyons, forest, tunnel, etc. To save you both time and money, we have tested and selected the best equipment to build a cost-effective and all-in-one package – Ekinox Land Solution.

## Benefits

- » All-in-one GNSS & Inertial solution
- » Robust Position even during GPS Outages
- » Survey Grade GNSS
- » 200 Hz Output Rate
- » Post-processing Software
- » Event marker at up to 1kHz

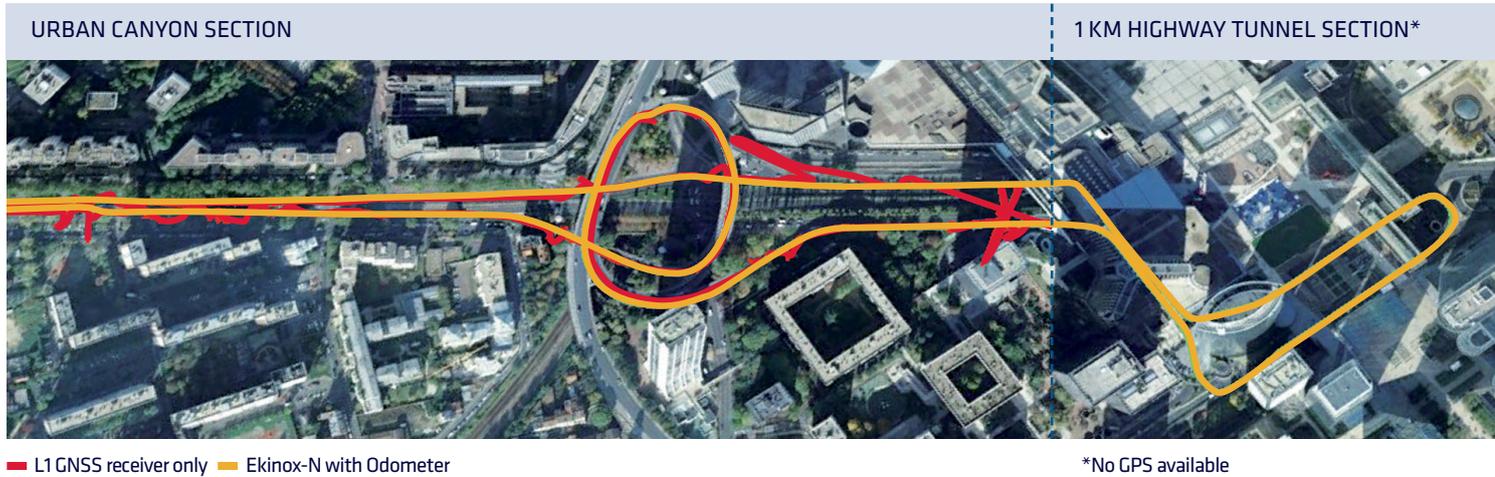
## EKINOX PERFORMANCE

	Real-time	Post-processing
<b>Roll, Pitch</b>	0.05° RMS	0.02° RMS
<b>True Heading</b>	0.1° RMS - Ekinox-N 0.05° RMS - Ekinox-D with 3m baseline	0.03° RMS
<b>Position</b>	1.20 m with L1/L2 GNSS 0.02 m with RTK GNSS 0.05% Travelled distance with odometer	

Car Testing & Racing - Machine Control - Precision Agriculture - Mining - Ground Robotics - Mobile Mapping



# Test Results



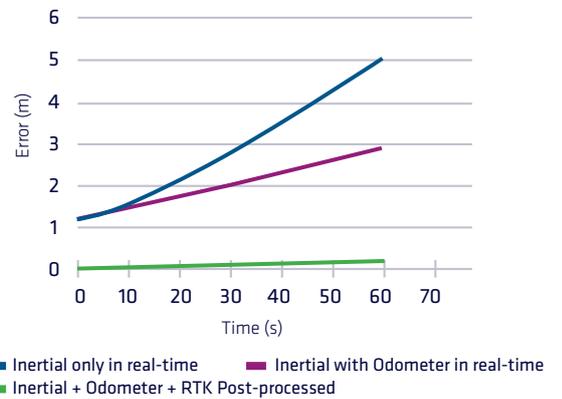
## REAL-TIME TEST (picture above)

For this test we used the Ekinox-N inertial system (embedded L1 GPS+GLONASS receiver) with odometer. The test has taken place in "La Défense" business district near Paris, France. The red line represents raw GNSS positions. The yellow line shows Ekinox-N with odometer's trajectory.

## POST-PROCESSING TEST

For this test we used the Ekinox-D inertial system (Dual Antenna L1/L2 GPS+GLONASS receiver) with the RTK base station and the odometer. All data have been post-processed.

## EKINOX POSITION DRIFT DURING GPS OUTAGES



# Ekinox-N

## INERTIAL NAVIGATION SYSTEM WITH INTEGRATED GNSS RECEIVER

Ekinox-N is a MEMS-based Inertial Navigation System with integrated survey grade GNSS receiver and data logger. Compact, robust, and cost-effective, Ekinox-N provides car's 3D orientation and position.



# Options

## INTEGRATED DUAL ANTENNA GPS



Choose the Ekinox-D model with integrated dual antenna GNSS to increase heading accuracy and robustness even at low dynamics.

## ODOMETER



Easy to mount on car's wheel (adjustable to every car model), connect this odometer to the Ekinox-N/D to increase car's trajectory accuracy.

## RTK GNSS REFERENCE STATION



To achieve 2 cm accuracy, this RTK GNSS base station sends differential corrections to Ekinox-N/D. It integrates mobile communications and UHF/GSM modem. Batteries, transport case, and tripod are provided.



SBG Systems is a leading French supplier of MEMS-based inertial motion sensing solutions. The company provides a wide range of inertial solutions from miniature to high accuracy. Combined with cutting-edge calibration techniques and advanced embedded algorithms, SBG Systems products are ideal solutions for industrial & research projects such as unmanned vehicle control, antenna tracking, camera stabilization, and surveying applications.

#### Ekinox Series Leaflet



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