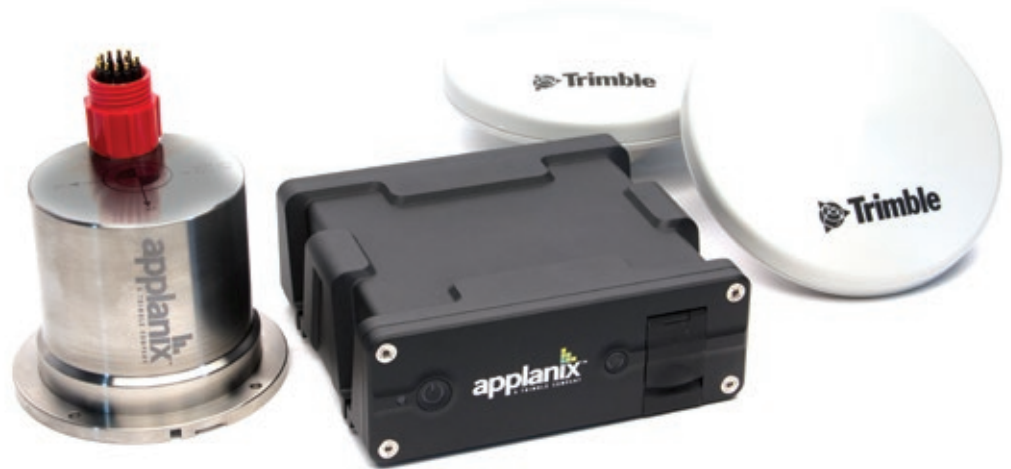


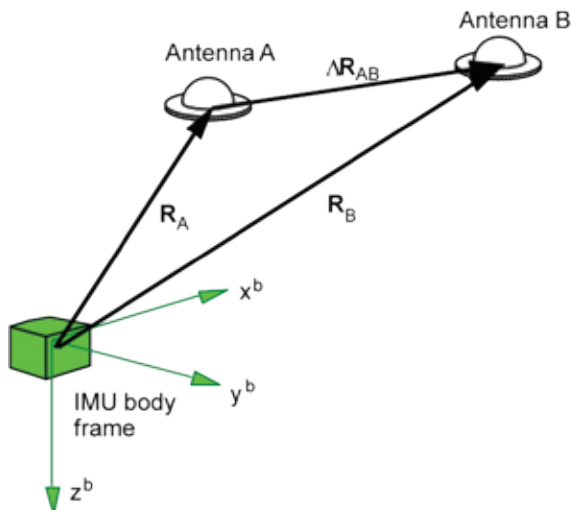
# POS MV™



POS MV is a user-friendly, turnkey system designed and built to provide accurate position, heading, attitude, heave, and velocity data of your marine vessel and remote sensing equipment. With over one thousand systems deployed worldwide, POS MV is field-tested and proven in all conditions.

POS MV blends GNSS data with angular rate and acceleration data from an IMU, and heading from GPS Azimuth Measurement System (GAMS) to produce a robust and accurate full six degrees-of-freedom position and orientation solution.

*GAMS provides robust heading regardless of latitude and dynamics.*



Whatever your requirements, there is a POS MV system right for you.

**POS MV comes in 4 models:**

- POS MV SurfMaster / SurfMaster One
- POS MV WaveMaster II
- POS MV OceanMaster
- POS MV Elite

All POS MV models are designed for use with multibeam sonar systems, enabling adherence to IHO (International Hydrographic Survey) standards on sonar swath widths of greater than  $\pm 75$  degrees under all dynamic conditions. At the entry-level is the POS MV SurfMaster, which delivers robust georeferencing for small platforms, both manned and unmanned. SurfMaster is available both with a remote IMU and in single-enclosure form factor. Fully supported by Applanix' industry leading post processing software, POSpac MMS, SurfMaster delivers roll and pitch accuracy to 0.03 degrees. Wavemaster II and OceanMaster are designed for increasingly difficult conditions and performance requirements. The POS MV Elite is for users seeking the very highest level of performance available to the industry.

**Field-tested and proven,  
POS MV maximizes your ROI  
in multibeam technology**

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## Benefits

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- **Applanix “TrueHeave™” software improves productivity and accuracy**

To improve the performance of real-time heave filters in long period swells, Applanix developed the TrueHeave processor. TrueHeave users reap the double benefits of significantly improved accuracy and productivity by eliminating the need for run-in time. TrueHeave also provides a unique and useful quality control tool for real-time heave during survey data collection.

- **Post-processing ensures high-quality results in difficult sea conditions**

With the ability to log raw GNSS and inertial observables for later processing in POSpac MMS – Applanix’ powerful GNSS aided inertial post processing package – an optimal positioning and orientation solution can be obtained even under the most demanding sea conditions. Post-processing benefits include:

- *Improved Accuracy* – Post-processed kinematic processing and an advanced smoothing algorithm drastically improves position and orientation accuracy.
- *Improved Reliability* – Setup errors can be corrected in post-processing. In addition, alternative differential GNSS sources can be found if the primary source proves unreliable.

- **Optimally aided architecture ensures a high-quality solution if GNSS outages occur.**

POS MV uses accurate inertial data aided by observables from as few as one satellite to compute a robust navigation solution. This ensures continuity of data, including position and heading, in areas where GNSS reception is compromised. This is vital for surveying under bridges, around structures (e.g. offshore platforms), or close to mountainous terrain where GNSS shading can occur.

In addition, due to the high quality of the inertial components used in POS MV, short-term loss of GNSS does not significantly degrade the POS MV roll, pitch or heading solution.

- **Full GNSS Support – ensures robust solution in any environment**

POS MV uses both GPS and GLONASS observables to produce the most robust solution possible in any given environment. POS MV uses high performance GNSS components for excellent carrier phase tracking capability even in high multipath environments.

- **Decimetric positioning anywhere**

POS MV provides support for the Fugro Marinestar™ GPS and GNSS services. With this integrated functionality there are significant benefits for the user including:

- *Larger area of operations*: no geographical limitations
- *Ease of use*: no additional hardware to purchase, integrate and maintain
- *High accuracy*: position data is accurate to less than 1 decimetre
- *Efficiency*: data is produced in real-time

Marinestar is available via subscription from Fugro.

- **Applanix’ Inertially Aided RTK ensures more robust solution than standalone RTK.**

Standalone RTK suffers from dropouts of both the GNSS signal and the telemetry from the base station. These dropouts can be caused by other vessels, bridges, topography, buildings or other obstructions. Re-acquisition of a centimetric level accuracy solution can and does take several minutes following a dropout. Applanix proprietary Inertially Aided RTK (IARTK) algorithms enable the rapid re-acquisition of fixed integer RTK positioning. Difficult GNSS environments are often encountered where accuracy requirements are at their most stringent (e.g. port areas). In these conditions POS MV with IARTK affords a significantly more robust and accurate position solution than can be achieved with standalone RTK.

- **Upgradeability – your investment is protected!**

POS MV uses the latest Trimble 220 channel GNSS receivers with the best available GNSS antenna technology. POS MV affords a low cost upgrade path to the latest technology ensuring your investment is protected.

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**POS MV is designed and built specifically for marine applications**

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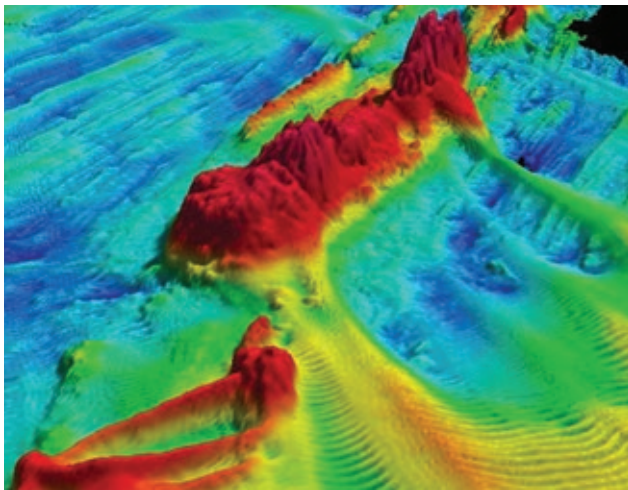
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## Applications

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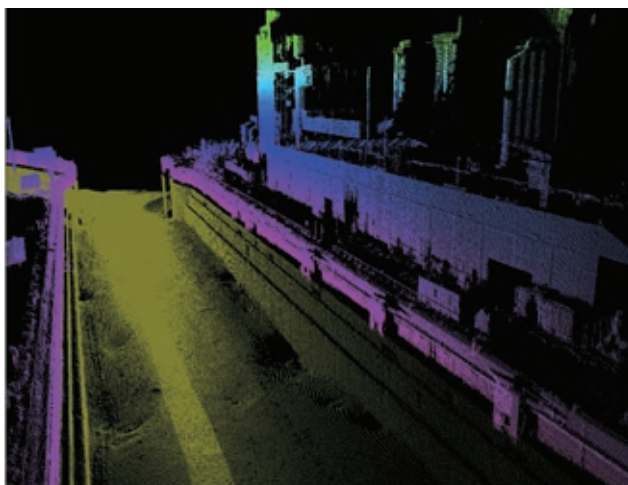
### Seafloor Mapping:

Producing maps of the seafloor has always been a unique challenge. Today, multibeam sonar is the marine technology typically used by hydrographers to generate precise seafloor mapping data. Georeferencing this data using POS MV produces the most advanced and accurate solution for mapping the seafloor.



### Coastline Mapping Above and Below the Waterline:

Mapping the geography, seabed and man-made structures in coastal waters means conducting highly detailed mapping exercises onboard a dynamic marine vessel, frequently in areas where bridges and other shoreline structures – the items to be surveyed – make the GPS environment extremely difficult.



### Harbour Mapping:

Mapping the seabed and geography in harbour waters means conducting detailed, highly accurate mapping exercises onboard moving marine vessels in shallow, narrow, and frequently rough waters. Applanix offers proven technology for doing this. No matter what the goal - port and harbour asset inventory, coastal zone management, marine hazard mapping, or management projects to satisfy government regulations – our mobile mapping solutions on marine vessels are highly cost-effective ways of acquiring quality marine infrastructure GIS data.



### Performance you can rely on:

- Accurate under all dynamic conditions
- Heading accuracy maintained in high multipath environments and in areas of poor GNSS availability
- Continuous sensor monitoring to ensure optimum performance
- Almost instantaneous reacquisition of RTK following any GNSS signal loss
- Automatic initialization upon power-up following a one-time calibration
- Very low noise L1 and L2 carrier phase measurements
- Superior low-elevation tracking performance regardless of latitude