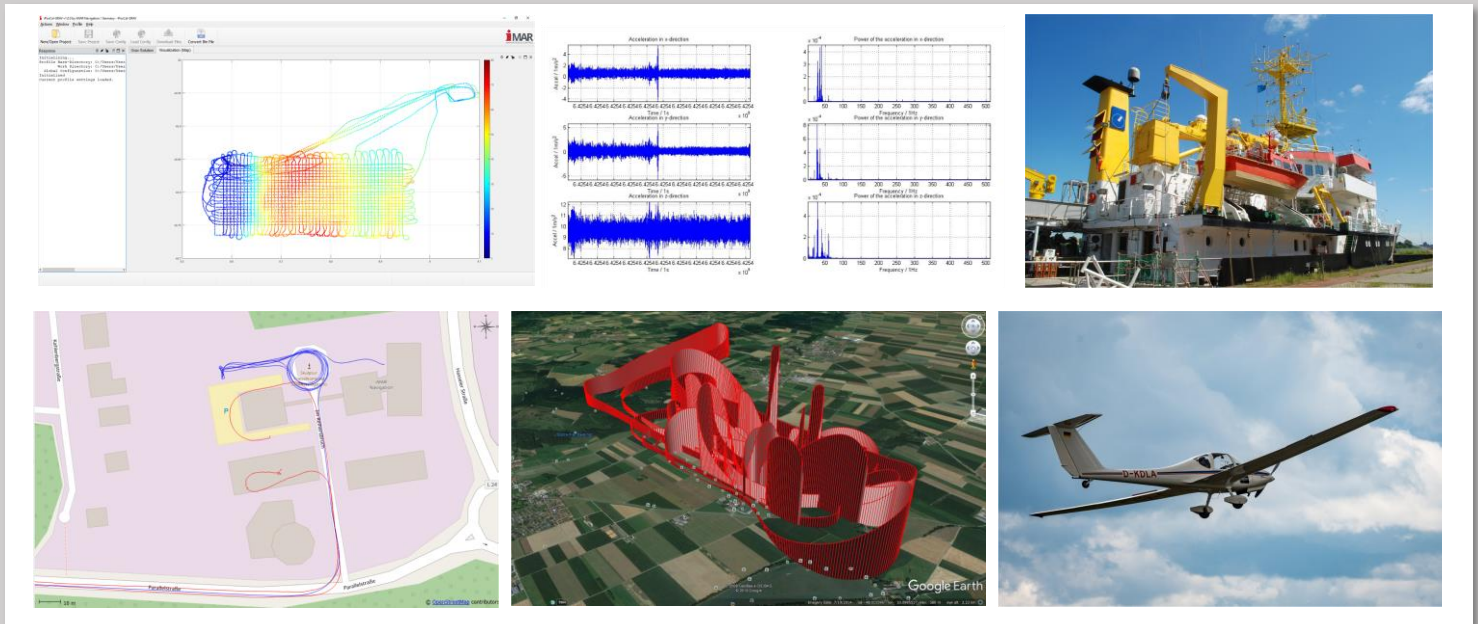


## INS/GNSS Post-Processing & Calculation Software for iXCOM-based Inertial Measurement Units

Determination of Position, Velocity, Attitude and Gravity Disturbance - *with a single click!*



**iPosCAL** is iMAR's powerful and easy-to-use post-processing and calibration software, fully compatible with all iMAR INS/GNSS devices supporting the iXCOM communication protocol, like iNAT, iCORUS, iTraceRT-MVT, iRail, iATTHEMO, iPST etc. The software allows the processing of a single data set as well as the fully automated **batch-evaluation** of a larger survey campaign, with up to hundreds of flights / tracks.

**iPosCAL** is available in several editions: **iPosCAL-SURV**, designed for IMS-based **surveying**, allowing the precise determination of position, velocity and attitude over time, along with the respective standard deviations. The software is designed for the full range of INS/GNSS applications: From low-cost MEMS up to highest performance with optical or hemispherical gyroscopes, thereby covering any industrial, automotive, railway, airborne, marine, surveying, defense and research applications.

**iPosCAL-GRAV** is designed for airborne or shipborne **gravimetry** campaigns, in combination with iMAR's family of strapdown gravimeters iCORUS. *On top* of all the features of iPosCAL-SURV, it offers additional functionality for airborne or shipborne gravimetry: The automated determination of survey line endings, an automated generation of cross-over statistics as well as basic cross-over network adjustment methods, the generation of gravity map images, and more.

**iPosCAL-PST** is designed for pipeline surveying using iMAR's iPST **pipeline surveying tools**. *On top* of all the features of iPosCAL-SURV, it offers additional functionality for specific pipeline related marker aiding procedures, specific odometer processing etc.

All editions of **iPosCAL** offer an easy-to-use simple processing mode for the less experienced user, as well as an expert mode, allowing the fine-tuning of all relevant processing parameters, GNSS-arrays with multiple antennas, user-customizable output files, and much more.

### CAPABILITIES & FEATURES

- Position velocity and attitude determination
- Determination of gravity (*iPosCAL-GRAV only*)
- Trajectory and data visualisation
- Automated batch-processing of large campaigns
- Signal Processing: Filter and Spectrum analyser

***The "easy to use" Post-Proc Solution for both, Field Operators and Experts***

## Technical Data iPosCAL-SURV/-GRAV/-PST

### Input Data and Formats:

Post-Processing:	iXCOM PostProcLog (any iMAR INS/GNSS system with iNAT architecture)
Gravimetry:	iXCOM GravLog (iCORUS product family); optional: terrestrial gravity tie value at port/airport to obtain absolute gravity estimates
GNSS Aiding:	Waypoint GrafNav ASCII files NovAtel binary files from GNSS receivers of class OEM7xxx RINEX 3.x
Odometry Aiding:	iXCOM OdoLog (included in PostProcLog)

### Output Data (excerpt):

- ✓ Position (latitude / longitude / ellipsoidal height) & Time
- ✓ Velocity (North-East-Down or body-fixed Front-Starboard-Down)
- ✓ Attitude: Roll/Pitch/Heading or as full 3x3 rotation matrix
- ✓ Gravity or gravity disturbance (*only iPosCAL-GRAV*)
- ✓ Estimates of accelerometer and gyroscope biases
- ✓ Estimated standard deviations of position / velocity / attitude / gravity
- ✓ Quick-Look even without RTK corrections possible in the field

### Output Formats:

- ASCII / .csv (customizable)
- binary files (MATLAB scripts available)
- .kml (for integration with GoogleEarth)
- NetCDF data files (for the integration with GMT; *only iPosCAL-GRAV*)

### Example (GUI / HMI):

