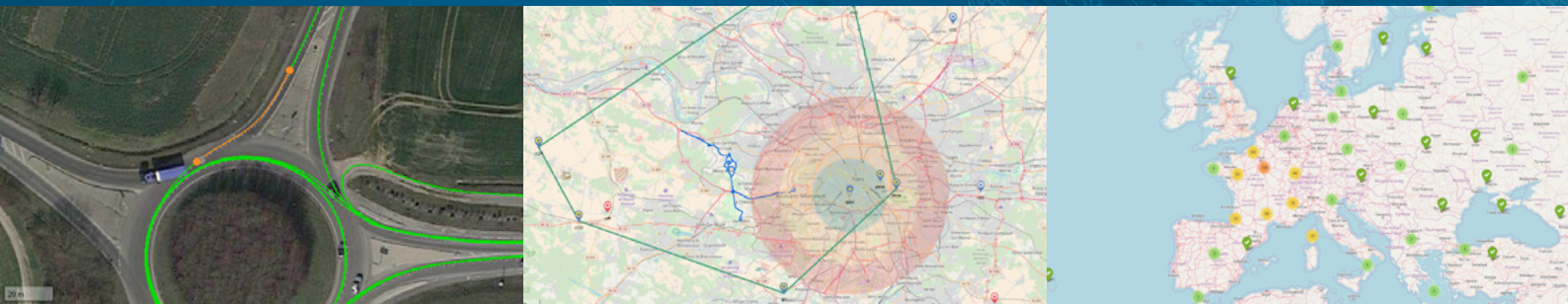


# Qinertia



## THE NEXT GENERATION INS/GNSS POST-PROCESSING SOFTWARE



For all mobile  
surveying applications



Survey Efficiently, Survey Anywhere, Survey Serenely.  
QINERTIA has been designed to help surveyors get the  
most of their surveys with simplicity.



# Qinertia

## The Next Generation INS/GNSS Post-processing Software

Qinertia is the SBG Systems in-house post-processing software. Full-featured, Qinertia enhances SBG inertial navigation systems performance by post processing inertial data with raw GNSS observables.



### ALL-IN-ONE SOLUTION

INS/GNSS Tight Coupling  
Post-processing

Static and Kinematic GNSS  
Post-processing

### KEY FEATURES

- » Tightly coupled solution for unmatched accuracy and reliability
- » Centimetric position using offline RTK corrections or Precise Point Positioning\*
- » Seamless Integration of Odometer and Dual Antenna GNSS Receiver
- » Multi-Constellation Support (GPS, GLONASS, GALILEO, BEIDOU)
- » Support of third-party IMUs and any GNSS receivers

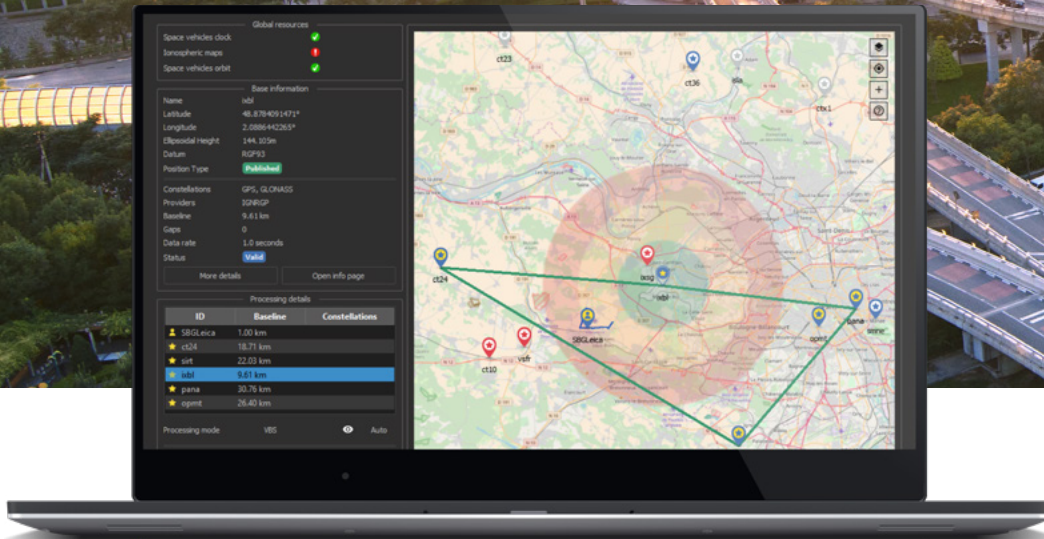
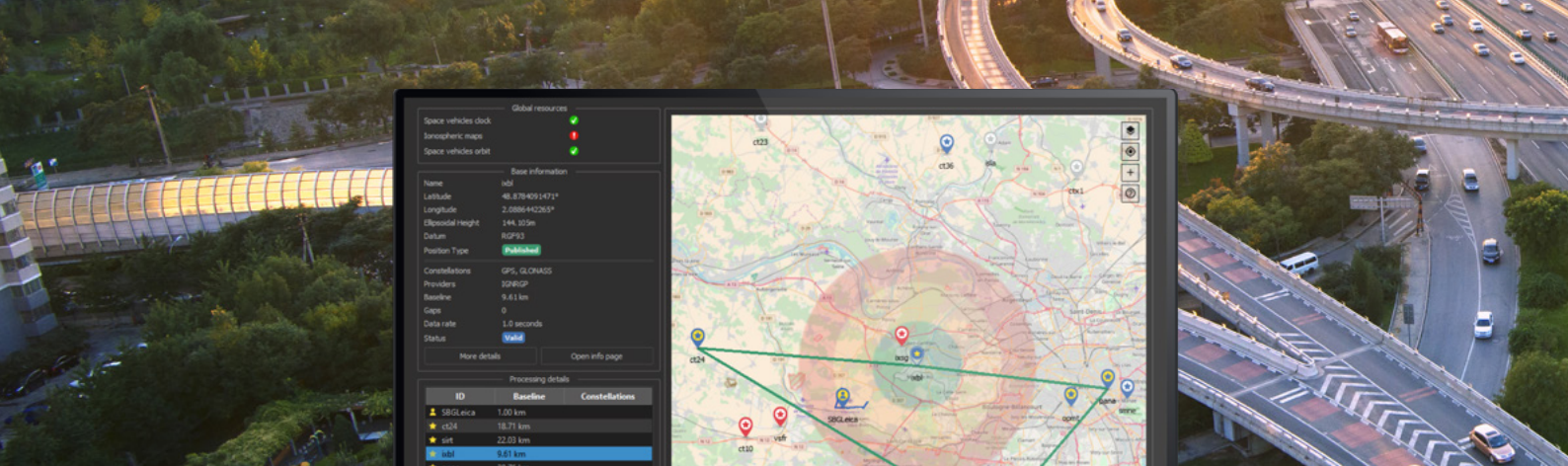
\* Precise Point Positioning will be available in the next major update for users under valid maintenance plan

## The Best Achievable Orientation and Position Accuracy



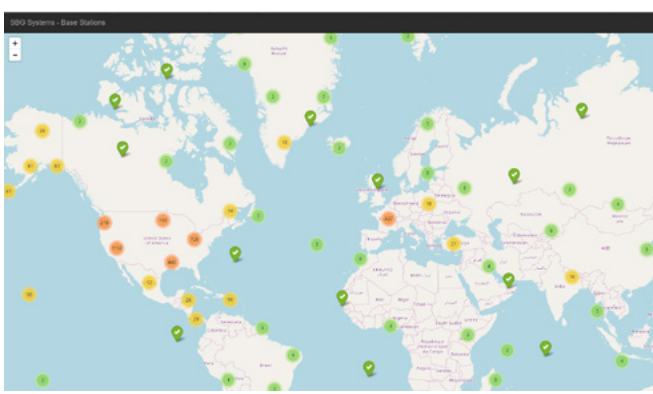
	Ellipse Series		Ekinox Series		Apogee Series		Horizon	
	RTK	PPK	RTK	PPK	RTK	PPK	RTK	PPK
Roll, Pitch	0.1°	0.05°	0.02°	0.015°	0.008°	0.005°	0.007°	0.004°
Heading	0.2°	0.1°	0.05°	0.03°	0.025°	0.02°	0.01°	0.008°
Position outage 10 seconds	1m	10 cm	30 cm	5 cm	17 cm	3 cm	10 cm	1 cm
Heave	5 cm	5 cm	5 cm	2 cm	5 cm	2 cm	5 cm	2 cm

GNSS position accuracy = 1 cm + 1 ppm (RTK/PPK). RTK = Real-time Kinematic. PPK = Post Processing Kinematic. Heading with a 4-meter baseline. RMS values for typical marine survey trajectories, better performance in automotive. Preliminary version. All specifications subject to change without notice.



## Powerful Base Station Management

- » 2 modes available:
  - Single Base Station
  - Virtual Base Station\*
- » Drag & drop user's base station (binary or RINEX format)
- » Preview trajectory and base stations on a map
- » Virtual Base Station computation using both permanent and user's base stations
- » Visualization of expected accuracy and quality
- » Base station position review with PPP computation



## Intuitive Base Station Explorer

- » Access to more than 7,000 base stations over 164 countries
- » Always up-to-date database
- » Automatic download and quality check
- » Web-based pre-mission visualization

\* Will be available in the next major update for users under valid maintenance plan

## Fast and Simple Workflow

### IMPORT

Easily import SBC inertial data  
 Compatible with industry standard GNSS receivers (RINEX) <sup>D1</sup>  
 Native support of Septentrio, Novatel, Trimble, and Ublox.



- 1 Download or import Base stations
- 2 Review mechanical installation
- 3 Launch Processing

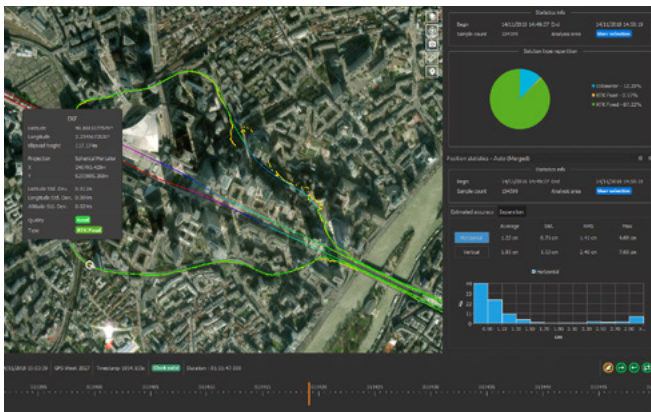


## Processing Made Easy

- » Motion Profiles selection to tune sensor behavior to the application dynamics
- » Seamless Integration of aiding equipment with specific error models
- » Advanced multipath and rejection filters
- » Automatic Lever arm and alignment estimation

## Fast & Modern Technology

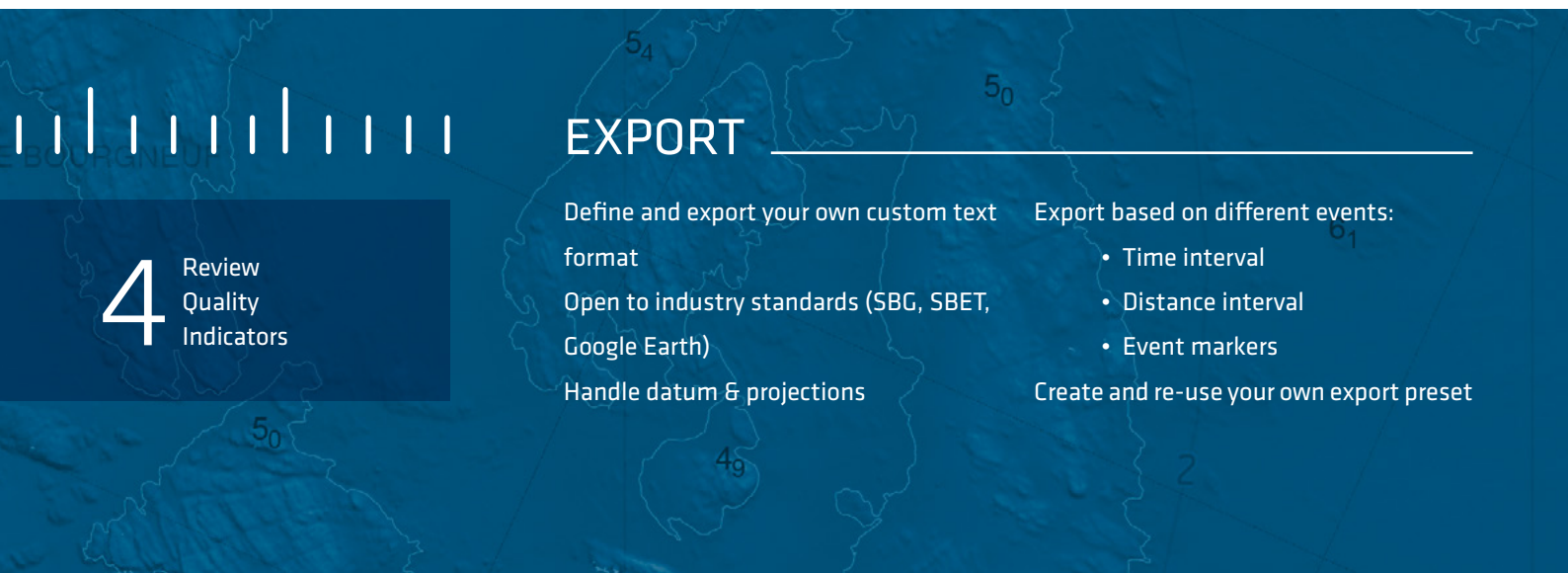
- » Less than 3 minutes for a 6-hour log thanks to Forward and Backward computation at the same time
- » Handle very large logs thanks to modern 64-bits design
- » Cross-platform support:
  - Windows
  - Mac OS X\*
  - Linux\*



## Extensive Quality Indicators

- » Interactive quality indicators assessment
- » Display of advanced parameters (separation, standard deviation, bias, scale factor, lever arm)
- » Statistics report generation (RMS, min/max)

*\* Will be available in the next major update for users under valid maintenance plan*



# 4

Review Quality Indicators

## EXPORT

Define and export your own custom text format

Open to industry standards (SBG, SBET, Google Earth)

Handle datum & projections

Export based on different events:

- Time interval
- Distance interval
- Event markers

Create and re-use your own export preset

# Qinertia - Your Full-featured Post Processing Solution

**Qinertia**  
GNSS

**Qinertia**  
UAV

**Qinertia**  
LITE

**Qinertia**  
PRO

## GNSS ONLY



All applications  
Post-processing of  
GNSS Static and  
Kinematic data.

## ECONOMICAL PPK FOR UAV\*



UAV applications  
Processing trajectory  
within a 3km radius  
limit.  
GNSS Only included.

## ENTRY-LEVEL PPK WITH ELLIPSE SENSORS



Land/Air applications  
Full processing with  
Ellipse sensors in  
Land/Air applications.  
GNSS Only included.

## FULL-FEATURED PPK



All applications  
Full processing with  
any IMUs and GNSS  
receiver.  
GNSS Only included.

## FLEXIBLE LICENSING

Easily share your floating license with your team.  
We offer flexible licensing options (perpetual or  
subscription) to best fit your needs.

### PERPETUAL LICENSE

Initial purchase  
+ yearly maintenance

### SUBSCRIPTION

1 Month

12 Months

\* Processing trajectory within a 3km radius limit. 1 year free subscription when buying a Quanta solution.



## VIRTUAL BASE STATION (VBS)

When you are far from a base station, Qinertia automatically generates a Virtual Base Station (VBS). This VBS is created at the nearest place of your trajectory in order to achieve the best position accuracy.

Global resources

- Space vehicles dock: ✔
- Ionospheric maps: ✘
- Space vehicles orbit: ✔

Base information

Name: opent  
Latitude: 48.8359170690°  
Longitude: 2.334933000°  
Ellipsoidal Height: 122.583m  
Datum: RGF93  
Position Type: Published

Constellations: GPS  
Providers: IGM07P, UNIVCO  
Baseline: 19.46 km  
Epsilon: 0  
Data rate: 30.0 seconds  
Status: Valid

Processing details

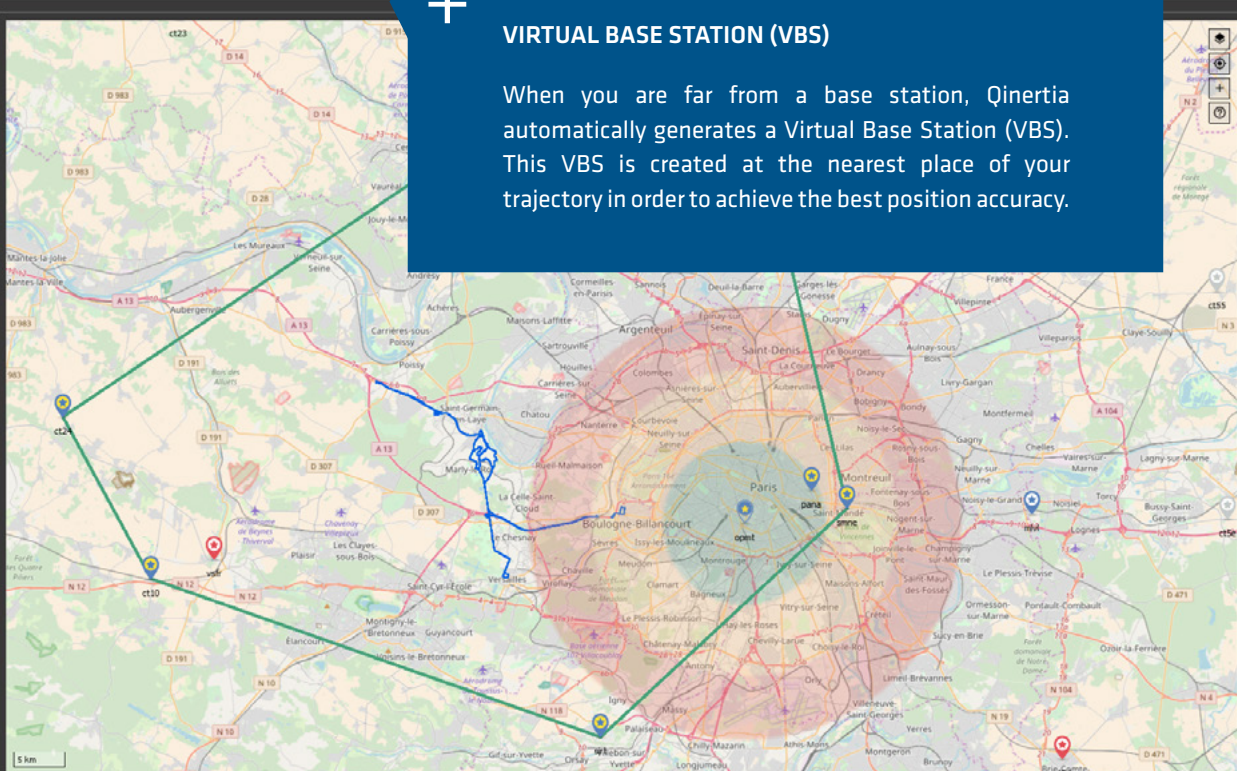
ID	Baseline	Constellations
opent	19.46 km	
ct10	21.91 km	
ct24	25.45 km	
istl	26.08 km	
ct1	28.60 km	
sirt	21.50 km	
srme	25.64 km	
piara	23.20 km	

Processing mode: VBS  Auto

Quality: Excellent

Used stations: 8  
Constellations: GPS, GLONASS  
Max inter-station distance: 77.14 km  
Max primary station baseline: 138.83 km  
Max VBS baseline: -  
Status: Preview

Quality check: Compute





SBG Systems is a leading supplier of 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, surveying applications, antenna tracking, and camera stabilization.

**SBG Systems EMEA (Headquarters)**

Phone: +33 1 80 88 45 00

E-mail: [sales@sbg-systems.com](mailto:sales@sbg-systems.com)

**SBG Systems North America**

Phone: +1 (657) 845 1771

E-mail: [sales.usa@sbg-systems.com](mailto:sales.usa@sbg-systems.com)

**SBG Systems Singapore**

Phone: +65 69 33 5730

E-mail: [sales.asia@sbg-systems.com](mailto:sales.asia@sbg-systems.com)

[www.sbg-systems.com](http://www.sbg-systems.com)