

+ABSOLUTE

AUTONOMOUS 3D GNSS MONITORING

in control from behind your desk

Locator One



basetime.nl

About the Locator One

The Locator One is an autonomous GNSS-based 3D monitoring station designed for construction companies, surveyors, maritime corporations, geotechnical and structure engineers and asset managers facing complex motion monitoring challenges. By mounting the devices directly on an asset to monitor, or alternatively, on a settlement rod in case of ground monitoring, we deliver sub-centimeter monitoring precision in 3D. We can do so either in relative coordinates or based on your local absolute coordinate system of choice.

The Locator One includes sensors such as GNSS, accelerometer, thermometer, and RADAR in order to monitor every 2D and 3D plane of movement of an asset or ground with precision up to 5 mm in height (Z-axis) and within 3mm horizontal (XY-axes), assuming an unobstructed sky view and the presence of an LTE-M (IoT) network.

Large construction & dredging companies were among the first to use Locator Ones for monitoring dykes, dredging grounds, soil stockpiles, and construction sites. Surveyors and Asset Managers typically deploy the Locator One for building and structure monitoring. Our customers use our back-end database including smart algorithms to improve the precision of the measurements.



Cost Effective –

Manual (expensive) survey monitoring tasks (often in remote, hard-to-access areas) can now be automated and monitored remotely without the need to go there, thus saving a lot of time and money in the long term.



Sustainable –

Powered by solar energy and a supercapacitor, Locator One functions autonomously and eliminates the need for maintenance rides, reducing CO2 emissions during operations.



Reliable –

Collection and calculation of accurate data on pre-defined time stamps offer a reliable prediction of deformation or subsidence allowing for precautionary actions.



Increased Safety –

Improves construction site safety by eliminating unnecessary human involvement, in-person visits, and the use of vehicles on terrains.



Fix and Go –

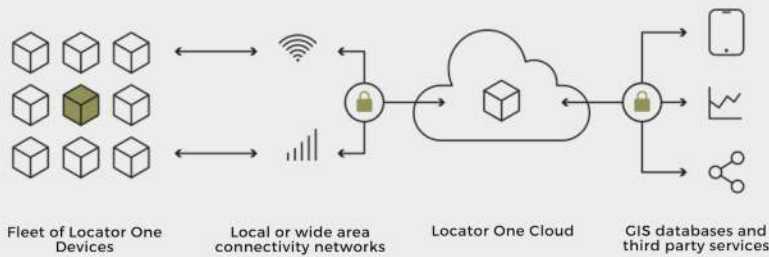
Simply mount the device on the asset or earthwork to monitor and it's good to go. There is even no need to switch on, as it is all remotely controlled.

The main benefits



How it works

Locator One is engineered to autonomously monitor your assets, construction grounds, and earthworks. By installing a fleet of devices, we measure the gradual 3D changes in deformation. Locator One then delivers accurate and reliable geodetic data through the Basetime dashboard or your preferred information system using an API.



Installation

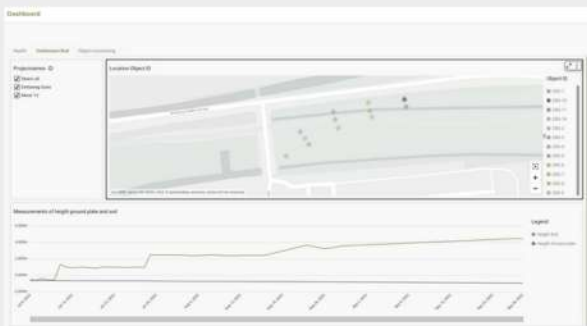
A fleet of Locator One devices is mounted on settlement rods to determine the height of the baseplates, which are positioned at the original ground level. For building or structure monitoring the devices can be mounted directly on the asset.

Control

The devices send their observations and metadata through an IoT network to our cloud. After geodetic adjustments and calculations, the data is delivered, putting you in full control from behind your desk.

Dashboard & Analysis

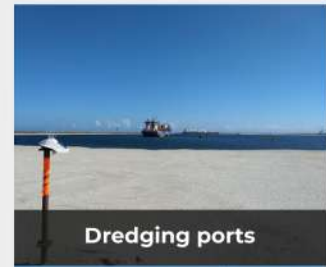
Results can be displayed on the new MMS system, or exported to the client's preferred environment through an API.



In control from behind your desk

In addition, the data can be analysed to detect trends or incidents, and visualised in various available graphics, diagrams, and spreadsheets.

Companies working with Locator One:



Dredging ports



Retaining walls



Building monitoring



Dyke re-enforcement



Landslides



Water level monitoring



Open mine monitoring



Earthquakes

Locator One specifications

Item	Technical Details
GNSS module	U-Blox ZED-F9 GPS, GLONASS, Galileo and BeiDou (186 channels)
Connectivity	SIM chip + LTE-M connectivity package
Antenna	Multi-band outdoor GNSS antenna, LTE-M antenna
Microcontroller	nRF91
Flash memory	2MB
Power source	Supercapacitor (air transport safe)
Energy harvesting	4W PU solar panel
Digital Sensors	Accelerometer, radar sensor, thermometer
Enclosure	IP65 & CE RED
Operating conditions	-20 - +60 C

About Basetime

Basetime is a Dutch supplier of autonomous, absolute GNSS-based 3D precision monitoring systems, having designed and manufactured them in-house. We are a joint venture of a leading IoT developing company and an expert geodetic services provider, thus changing the game of monitoring by combining the best of both worlds.



Basetime stands for Baseline plus time, the two ingredients to obtain accurate GNSS measurements at a timestamp you need the measurements. We offer a full-stack solution including device, database, dashboard, and ongoing support and services.

The primary long-term innovative monitoring applications and markets are: ground settlements, building and structure movements, dredging, earthquakes, landslides, open mining, dyke reinforcements, earthworks, water level monitoring, etc.

Basetime is currently expanding rapidly by setting up a global network of dealers.

