

# KOMATSU



Solutions

## **Smart Construction Edge**

**Simplified drone surveying for everyone  
to capture full terrain surveys**



## Everyone can capture site progress by drone

Smart Construction Edge is a unique device that allows both surveying experts and non-experts to perform accurate drone surveys and to process the flights into point clouds. Our simplified workflow eliminates all manual calculations and technical hassle, streamlining the process so that everyone can map the full terrain seamlessly.



Construction-grade build quality and water/  
dust resistant (IP65)

Mobile via battery power (12 hours) or  
stationary via cable

Edge can achieve  $\pm 5$  cm accuracy

### Case study

When the main surveyor of a medium-sized Belgian earthmoving company went on maternity leave, the company faced challenges in maintaining its surveying capabilities. However, thanks to the Edge, the workload gap was effortlessly filled. Various team members, including the marketing manager, were able to take on drone surveying tasks and capture survey-grade earthmoving progress with the Edge.

Available pointcloud densities:

Standard  
16 points/m<sup>2</sup>

Medium  
100 points/m<sup>2</sup>

High  
160 points/m<sup>2</sup>

Extreme high  
280 points/m<sup>2</sup>



# Under the hood of the industries' new drone surveying workflow

## 1. Say goodbye to Ground Control Points (GCPs)

If your drone receives RTK corrections from an NTRIP service provider during flight, the Edge can process your images afterward. For post-processing kinematic (PPK) flights, you can set up the Edge as a PPK base station. It will track correction information and incorporate it into your dataset during processing. This allows the person responsible for earthworks updates to avoid entering the active site, and operators won't have to worry about driving over a ground control point, keeping everyone safe and productive. Prefer to use GCPs? The Edge can work with them as well.

## 2. SfM (Point Cloud Processing)

3D processing of your flight can happen on-site, in the car, or at the office seconds after your drone touches the ground, with no internet connection required. A 2-hectare site can be processed with high accuracy within 10 minutes. If more detail is required, you can spend a few extra moments to enhance your output by increasing the quality, removing vegetation, and including a detailed Digital Elevation Model.



Wireless connection to Edge  
via tablet or computer

Export point cloud, orthophotograph,  
DTM and DSM



Before automatic object removal



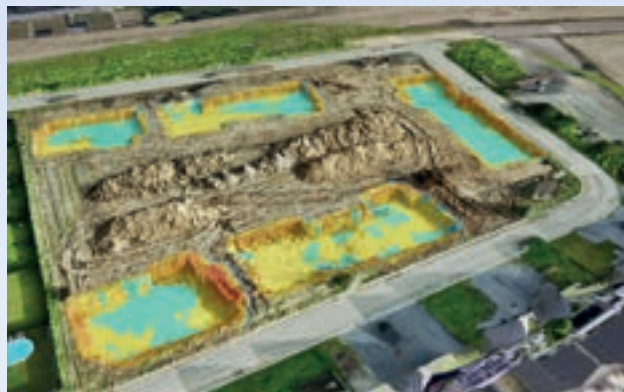
After automatic object removal

## 3. Automatic removal of unnecessary objects

Our Artificial Intelligence technology, developed by Sony as part of the EarthBrain joint venture with Komatsu, NTT, and NRI, instantly cleans up your drone data by automatically removing obstacles like machinery and buildings from the point cloud, reducing manual post-process cleanup significantly so you get to value more quickly. It's easy for surveyors and simple for job site managers.

## Connection with Smart Construction Dashboard

With Edge, you can effortlessly send your processed point cloud directly to Smart Construction Dashboard via the cloud, eliminating the need for wires or external memory. This creates a unified and efficient workflow. Dashboard serves as a data sandbox, ready to collect soil movement information not only from drones but also from machines, rovers, and handheld 3D scanners. Start tracking your site progress with 3D data to streamline your management processes.



## Additional options: Correction data for your equipment

Activate the correction data license and upgrade the Edge into a combined processing powerhouse and base station unit. Keep all your 3D machinery on grade.



### NTRIP correction data relay

Instead of purchasing individual NTRIP accounts for each machine, use the Smart Construction Edge to broadcast a single NTRIP account across your entire project, allowing all machines to connect seamlessly or use it as a RTK base for your drone.



### SATEL radio kit

When preferred, an additional radio can be attached to the Smart Construction Edge to broadcast correction data to all machines present on site.

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