



Solutions

Smart Construction Retrofit

3D machine guidance & payload meter
for crawler and wheeled excavators



SMART CONSTRUCTION Retrofit

What is 3D machine guidance?

3D machine guidance uses technology, such as sensors, GPS and computers to improve digging accuracy. It works by comparing where the bucket is in the real world to a 3D digital model, essentially giving operators a virtual guide to assist them in their work.

Smart Construction Retrofit kit is a 3D machine guidance kit, providing an accessible way to add precise digging capabilities to any crawler or wheeled excavator. Additionally, it comes with an integrated payload meter option, helping operators load more accurately.

Trusted Komatsu quality and support network

Developed by Komatsu to the same strict standards as the yellow machines, the Retrofit kit hardware components provide customers with guaranteed reliable quality and performance.

More than 6200 units worldwide are sold and fitted on machines of different types, configurations and brands.



At a glance

3D machine guidance
Trusted Komatsu quality and support
Precise digging for operator
Adaptive to various machine types and configurations

Transfer 3D design data in all major file formats
Register machines & attachments
Remote access to in-cabin tablet
Acquire as-constructed terrain data

Payload meter
Accurate dynamic loading
Prevent overloading
Payload history reporting

What you can find in the basic kit

The basic kit is made of four IMUs, two GNSS antennae, wiring harnesses, a 10" tablet, a controller and a WiFi router. The kit is designed for a simple set-up and comes at a competitive price.

- Reliable components with rigid protection gear
- Multi-constellation GNSS system ensuring centimeter accuracy
- WiFi connection between operator screen and controller, no cable needed
- Ruggedized 10" tablet for good visibility of the designs even under harsh jobsite conditions



Four IMUs (Inertial measurement units)



Two GNSS antennae



10" tablet screen



Controller



WiFi router



Integrated payload metering (optional)

For Komatsu machines, the Retrofit kit comes with an integrated payload meter option that allows for on-the-go weighing of material. This eliminates the need to stop and weigh each bucket, preventing overloading and increasing productivity by allowing uninterrupted operations.



Material tracking and automatic reporting

Combining payload with Smart Construction Fleet, you are able to receive daily payload reports automatically. This allows you to precisely track load counts and volume moved, gain insight into your productivity and reduce idle time.



Flexible with different machine set up and jobsite needs

Besides being adaptive to different weight classes, the Retrofit kit can also be combined with various optional kits, so that it matches your machine's configuration and work conditions more effectively.

- Tilt bucket and couplers kit
- Two-piece boom kit
- Super long front kit
- SATEL radio kit



Safety zone feature

Improve safety and productivity by creating or importing avoidance zones. This feature sends alerts to operators if they are near obstructions like powerlines, underground utilities, walkways, or public roads.



Compatible with all major file formats

Smart Construction Retrofit kit works with all the major file formats, such as Land XML files, Topcon and Trimble formats. You can use it alongside your other machine guidance systems without the need to convert any files.



Automatically visualise 3D as-constructed terrain data

Take your 3D systems beyond precision digging - Smart Construction Retrofit offers the capability to not only work with increased productivity on your jobsite terrain, but also visualise and analyse it in 3D. See layers created by your bucket tip visualised on a 3D map. Your jobsite terrain is updated daily on our Dashboard, where you can make various calculations such as progress in volume, cut-and-fill, slope angles, 2D & 3D cross section, among others.

3D machine guidance features

- Multi GNSS (GPS, Glonass, BeiDou, Galileo)
- Easy switch between 3D/2D guidance mode
- Network RTK or base station correction
- Display 3D design data
- Heatmap showing if bucket is higher/below the design
- Correction Data: RTCM3x, VRS and CMR+
- Assign vertical or perpendicular offset
- User-friendly interface
- Create simple in-field design data (flat, slope, dual slope)
- Extend grade of surface
- Geofence feature
- Cloud and USB/SD card file transfer
- Register machines and attachments
- Remote access to in-cabin tablet
- Transfer 3D design data in multiple formats
- Developed and supported by Komatsu
- Simulator functionality for training and familiarization

Payload meter features

- Overloading alert
- Easy and fast calibration
- Use payload by itself or combined with 3D machine guidance
- Truck and payload history
- Display truck list
- Developed and supported by Komatsu

Adaptive to a wide range of weight classes

The Retrofit kit fits on all Komatsu and non-Komatsu excavators from 13 ton up to 120 ton machines, crawler or wheeled.
Please contact your Komatsu distributor for further information.

3D machine guidance benefits

- Accurately construct to design
- Empower operators, no matter the experience level
- Eliminate repetition and re-work
- Minimise the need for in-field survey
- Increase jobsite safety with safety zone
- Save fuel and reduce carbon emission
- New designs can be implemented immediately
- Acquire as-constructed terrain data
- Simple set-up



Payload meter benefits

- Accurate dynamic loading
- Smooth operation, no need to stop and weigh each bucket
- Hit loading target with every bucket
- Avoid overloading the bucket or the truck
- Gain an efficient overview on productivity
- Track volume moved and load counts

Your Komatsu partner:

KOMATSU

komatsu.eu

