KOMATSU

Retro Fit Kit (RFK) and Pilot

SMART CONSTRUCTION Retrofit

3DMG & Pilot Tablet
3D Machine Guidance
Multi-Constellation GNSS
Display Cut/Fill of 3D Design Data
Create Simple In-field Design Data

Payload Meter
Optimise your Loads
Prevent Overloading
Accurate Dynamic Loading
Payload History Reporting

SMART CONSTRUCTION Pilot

Pilot WEB & Device Application
Create Projects
Register Machines & Attachments
Acquire As-Constructed Machine Data
Transfer 3D Design Data from Multiple Formats
Remote Access to RFK Device
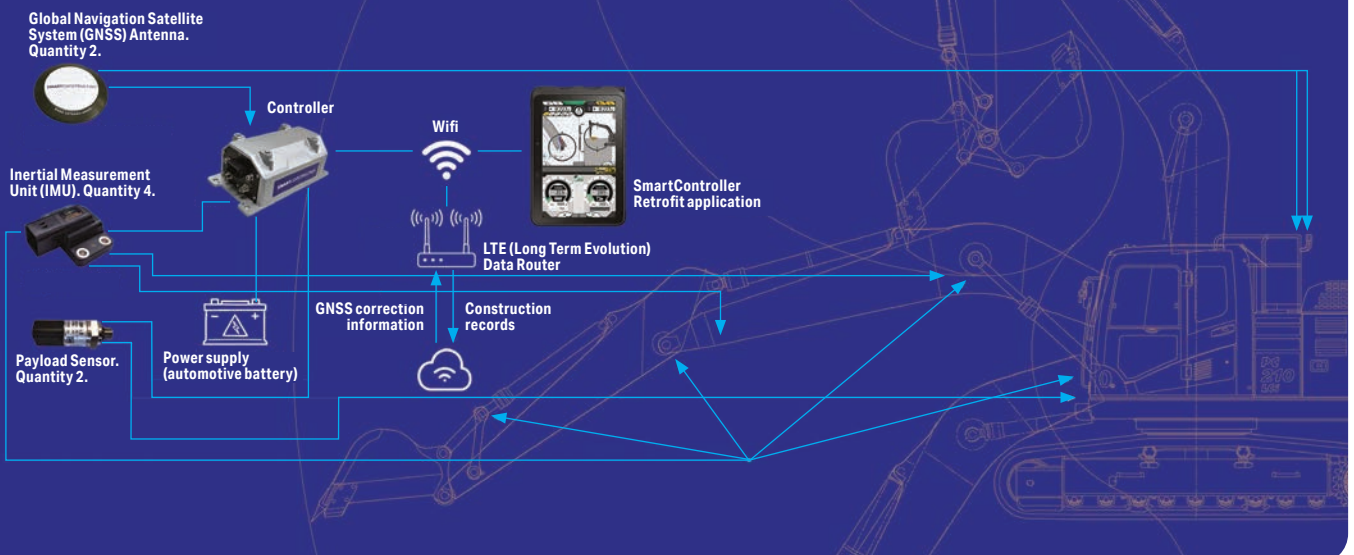User friendly operator user interface

What is Smart Construction Retrofit Kit?

A 3D machine guidance Retrofit Kit allows ICT functionality to an existing hydraulic excavator. Once equipped with retrofit kit allows the use of the following functions, enabling conventional machines to perform digital construction.

What functions are included?

- **3D machine guidance** is a function to acquire the machine location information by GNSS and provide a cab tablet device with the difference between design data of the construction area and location of the bucket edge.

- **Payload Meter** is a function to measure the weight of soil loaded in the bucket of the hydraulic excavator.

- **Acquire 3D construction data:** while operating on a project using 3D digital design, as constructed information is collected from the machine. Which can be visualised in Smart Construction Dashboard, allowing automatic updating of the design surface. Change in topography can also be visualised on the in cabin RFK screen using SC Pilot application.

SMART CONSTRUCTION Retrofit

Global Navigation Satellite System (GNSS) Antenna. Quantity 2.

Controller

Wifi

SmartController Retrofit application

Inertial Measurement Unit (IMU). Quantity 4.

LTE (Long Term Evolution) Data Router

GNSS correction information

Construction records

Payload Sensor. Quantity 2.

Power supply (automotive battery)

Features and Benefits

3DMG & Pilot Tablet Feature

- Komatsu factory 3D machine guidance solution
- Komatsu supported
- 3D machine guidance
- Multi GNSS
- Display 3D design data
- Design offset
- Create simple in-field design data (Flat, Slope, Dual Slope)
- Cloud file transfer
- Network RTK correction
- Projection geoid & localisation
- Heatmap of design cut/fill
- Extend grade of surface
- USB card file transfer

Benefits of 3DMG

- Accurately construct to design
- Real-time cut/fill mapping
- Simple easy to use UI
- Eliminate re-work
- Minimise the need for in-field survey
- "Option to connect to SC suite of products, like - SC Dashboard for project visualisation with as constructed data collection direct from machine "
- Increase safety and save time
- Save on fuel and reduce carbon emission
- Achieve high position accuracy with Multi-Constellation GNSS even in harsh environments
- New designs can be implemented remotely immediately
- Overnight design file sending feature - no need for the machine to be connected until work commences
- Remotely access your machine with SC Remote
- Deliver files to machines when not on a connected project

Payload Feature

- Komatsu factory payload solution
- Komatsu supported
- Truck and payload history
- Payload history reporting
- Accurate dynamic loading
- Tip off feature - maximise payload optimisation
- Use payload by itself or combine with 3DMG on the same user interface
- Display truck list

Benefit of Payload

- Assist with chain of responsibility by accurate loads on and off site
- Optimise truck loading with accurate weights
- Alerts of over loading
- Smooth continuous operating
- Keep working, no need to stop and weigh each bucket
- Productivity insight
- Calibration done in a matter of minutes, no need for complicated process or resources
- Avoid double handling and reloading or site tip offs
- Track tonnes moved and load counts

Pilot WEB & Device app Feature

- Create projects
- Register machines & attachments
- Acquire As-Constructed machine data
- Transfer 3D design data multiple formats (xml, tp3, tn3, gc3, dxf, ttm, svd, dsz, svl, cal)
- Remote access to RFK device
- User friendly operator user interface
- Cloud backup of machine and bucket files
- Manage 3DMG machines
- Automatically connects to Ntrip RTK corrections
- Download 3DMG topo points and recorded
- Monitor operator daily bench check
- Monitor hardware health

Benefit Pilot web and device

- Never misplace important files again
- Download any specific As-Constructed data at any time
- SC Pilot will convert files and make them compatible
- Save time by sending & implementing a new design immediately
- Confirm operator calibrations
- Confirm machine status (Online /Offline)

Digital Connectivity to other Smart Construction Applications

Connection to Smart Construction Fleet

- Detailed Reporting
- Alerts and Safety
- Traffic Management and more...

Connection to Smart Construction Dashboard

- Connect the machine to project visualisation softwares
- Site progress updates direct from cutting edge
- **Speak with your Komatsu representative for more details on SC Fleet and SC Dashboard Application**

Retro Fit Kit (RFK) and Pilot

KOMATSU PRODUCTS			KOMATSU
Model		**Model Series**	**3DMG + Payload**
PC130–PC138		STD / LC	✓
PC160–PC170		STD / LC	✓
PC200–PC210 **HB215**		STD / LC	✓
PC220–PC240		STD / LC	✓
PC270–PC290		STD / LC	✓
PC300-PC360 **HB335**		STD / LC	✓

*Note: For installation and information on other OEM RFK and Payload opportunities please contact your Komatsu representative

Standard and Options

Standard options – Hardware

- Multi-Constellation GNSS receiver
- 2 x Multi-Constellation GNSS antennas
- 4 x IMU (Inertial Measuring Unit)
- 2 x Payload Sensors
- Android device mounting bracket
- Ruggedised Android device 10.1"
- WiFI router 12-months (Data & Sim included)
- UHF Radio (RTK Correction)

Standard options – Software

- SC Pilot web application access
- SC Pilot Android application
- SC Remote setup
- Cloud data hosting
- 3DMG & Payload simultaneously display

Standard, SaaS & Access Options

- Network RTK Correction Capable *
- 1 x SC Remote Device Activation License
- 12 Months Remote, Phone and Email Support
- Operator Training
- SC Pilot & Software training

Optional Extras
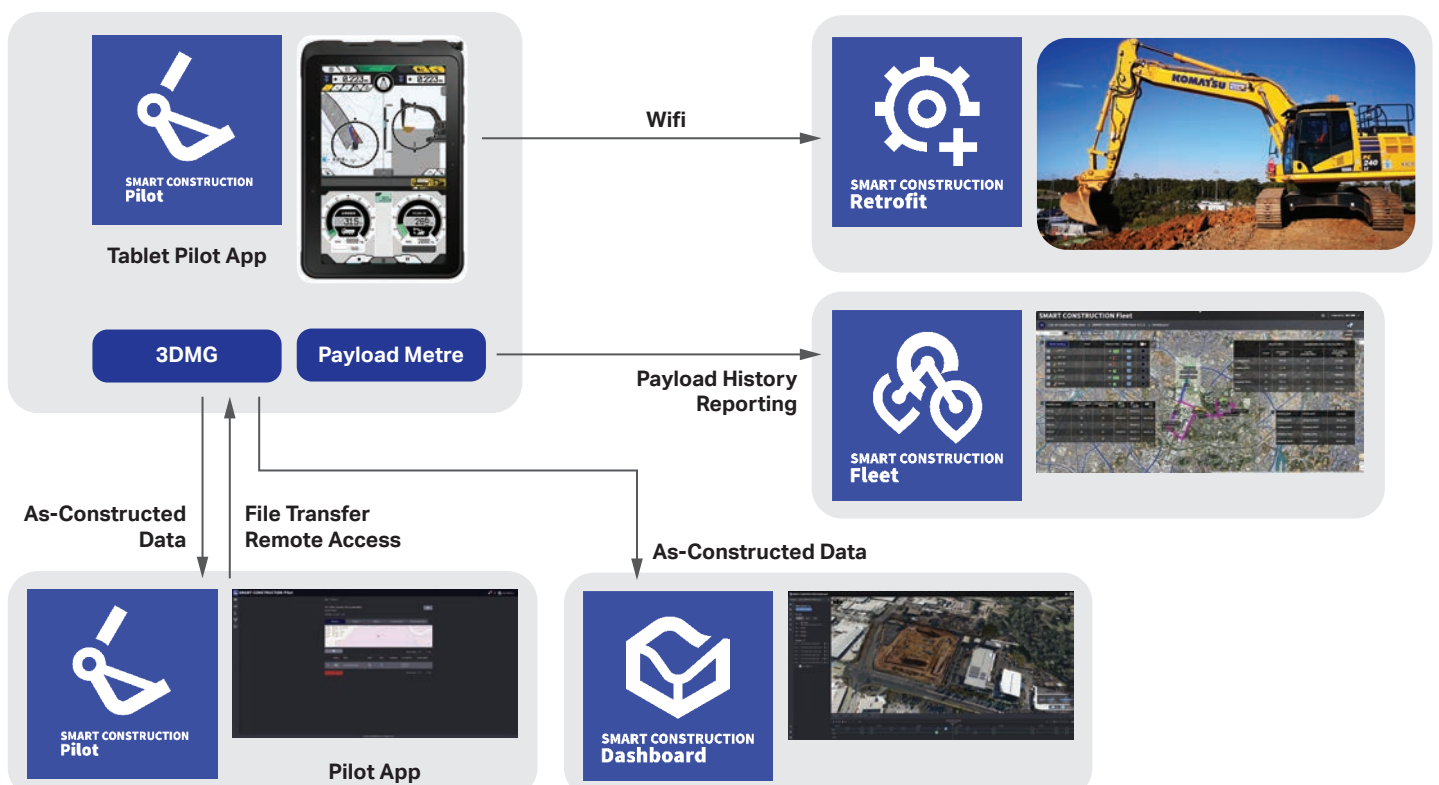
Network correction license

SC Fleet – Material tracking and payload reporting

SC Dashboard – As constructed and project progress tracking

Additional SC Remote device activation licenses

* Network correction license not included please talk with your Komatsu representative

** Advanced Geofencing features under development

Tablet Pilot App

3DMG   **Payload Metre**

Wifi

SMART CONSTRUCTION Retrofit

Payload History Reporting

SMART CONSTRUCTION Fleet

As-Constructed Data

File Transfer Remote Access

As-Constructed Data

SMART CONSTRUCTION Pilot

Pilot App

SMART CONSTRUCTION Dashboard

Learn more about Smart Construction by contacting your local Komatsu representative or visit:
https://www.komatsu.com.au/innovation/smart-construction/Retrofit-Kit-and-Pilot

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1300 566 287