



Komatsu iSite

Your fleet management solution



ROI – Your Return

- Increase quarry and construction productivity
- Increase fuel efficiency and reduce fuel burn
- Monitor and improve site safety
- Reduce overall site emissions
- Manage utilisation and reduce unnecessary idling
- Average ROI within 12 months

Do More – Save Money

- Understand exactly what your fleet is doing and when to make decisions to optimise fleet efficiency
- Ongoing real time overview of every connected machine movement and machine condition
- Save time with automated data collection
- Improve accuracy of data by eliminating human error
- Improve operations from real-time operator scorecards

Komatsu iSite Product Summary

- Komatsu iSite is a fleet management solution for quarry and large construction sites
- Simple in-cab automated operation and display
- Sophisticated in office real-time site monitoring
- Real-time data aggregation visualised and usable
- Selection of industry leading dashboards – built with voice of the industry in mind
- Electronic PreStart checks plus auto-reporting
- Supports agnostic OEM fleet over most construction and mining sized machines



Komatsu iSite fleet management solution is now available to the Australia and New Zealand markets and focuses on five key areas:

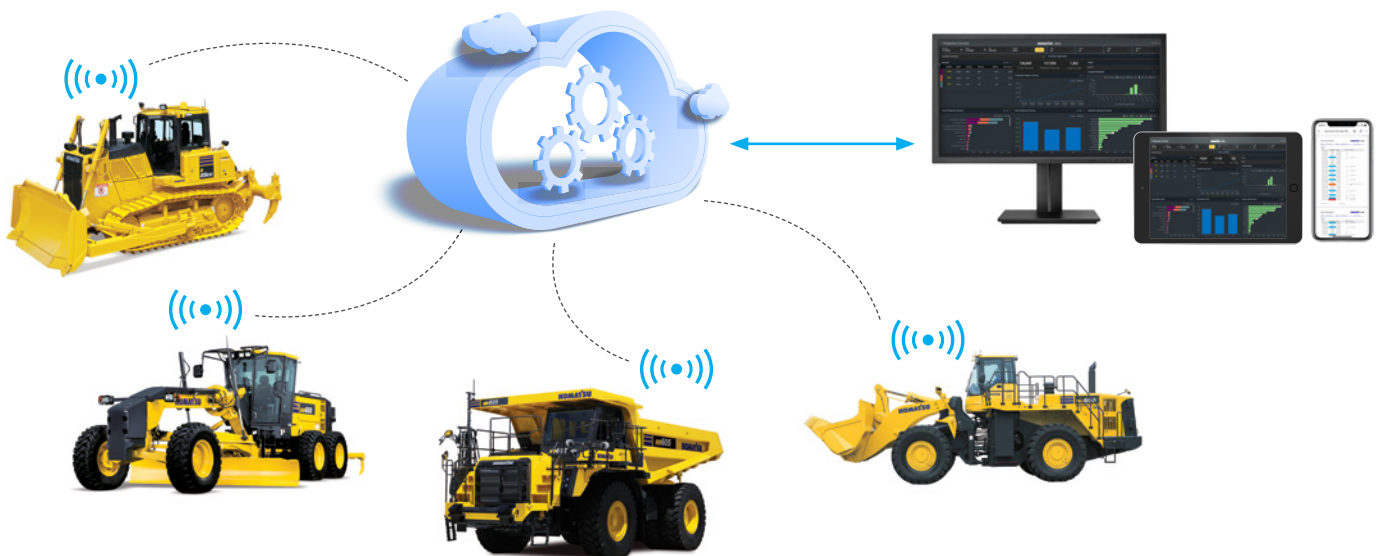
- Site management
- Production
- Machine health
- Maintenance
- Safety for quarry operations and large civil construction projects.



Komatsu iSite offering provides site and project management personnel with an “at a glance” production visualisation of any quarry or major civil construction site. Komatsu iSite gives the user a real time animated overview of every movement of production machines – and the material they are extracting, shifting or placing.

It predominantly applies to the following equipment types:

- Trucks
- Loaders
- Excavators
- Graders and dozers



Safety and PreStart

PreStart is an app that enables the automatic collection and distribution of vehicle specific PreStart checks. Operators use an in-cab multi-step interface to enter their PreStart check results.

These results are then sent back to the Komatsu iSite database and immediately visible to supervisors using iControl and iReport, through notifications. At each new shift operators are presented with PreStart.

Features

- Specific PreStart covering local items added to the machine, includes all OEM's and machine types.
- Assign severity to checklist items.
- Update and customise prestart checks from anywhere.
- Automatic reporting (individual detailed report and summary report).
- Automatic submission of unstarted or incomplete PreStarts checklists.
- Notifications to the maintenance team allowing immediate action on machine defects.
- PreStarts checklists are tied to operator ID.



Detailed report for each daily PreStart – sent to key site stakeholders for action of defective items.

Pre-start Checklist

Pre-start ID : 557 Unit : DT01
 Date : 08/Oct/2021 05:57 AM Operator : Matt Jones

Category: 1 - Walkaround checks

Status	Item	Details
PASSED	Check blade and G.E.T	
FAIL (HIGH)	Check undercarriage condition	
PASSED	Check rippers and G.E.T	
PASSED	Engine checks	
PASSED	Batteries	
PASSED	Cooling package	
PASSED	Check all antennas [KOMTRAX/iSite]	
PASSED	Mirrors / windows	
PASSED	Machine grease points	
PASSED	Steps / ladders / handrails	

Category: 2 - Checks before starting

Status	Item	Details	Notes
FAIL (HIGH)	Coolant level [sub tank]		low
PASSED	Windscreen wipers / washer bottle		
PASSED	Pre-cleaner condition		
PASSED	Check dust indicator		
PASSED	Auto-lube system condition		



Site Pre-start Summary



Start Date : 01/Oct/2021 02:00 AM End Date : 01/Jan/2022 02:00 AM Site : Demo Site

HeavyTruck

TR06				
Date	Pre-start Result	Operator	Pre-start ID	Failed Items
01/10/21 01:00 AM	NO RECORD	Matt Jones		
01/10/21 07:48 AM	PASSED	Demo Operator	512	
01/10/21 04:07 PM	PASSED	Cameron Smith	516	
02/10/21 01:00 AM	NO RECORD	Demo Operator		
02/10/21 06:58 AM	FAIL (LOW)	Demo Operator	520	Tyres / rims (LOW)
02/10/21 05:11 PM	PASSED	Matt Jones	523	
03/10/21 05:30 AM	NO RECORD	Matt Jones		
04/10/21 12:00 AM	NO RECORD	Demo Operator		
04/10/21 05:30 AM	NO RECORD	Demo Operator		
05/10/21 12:00 AM	NO RECORD	Demo Operator		
05/10/21 05:53 AM	FAIL (LOW)	Cameron Smith	526	Tyres / rims (LOW)
	PASSED	Cameron Smith	530	
	NO RECORD	Demo Operator		
	FAIL (LOW)	Matt Jones	535	Tyres / rims (LOW)
	PASSED	Matt Jones	540	
	NO RECORD	Demo Operator		
	FAIL (LOW)	Cameron Smith	545	Tyres / rims (LOW)

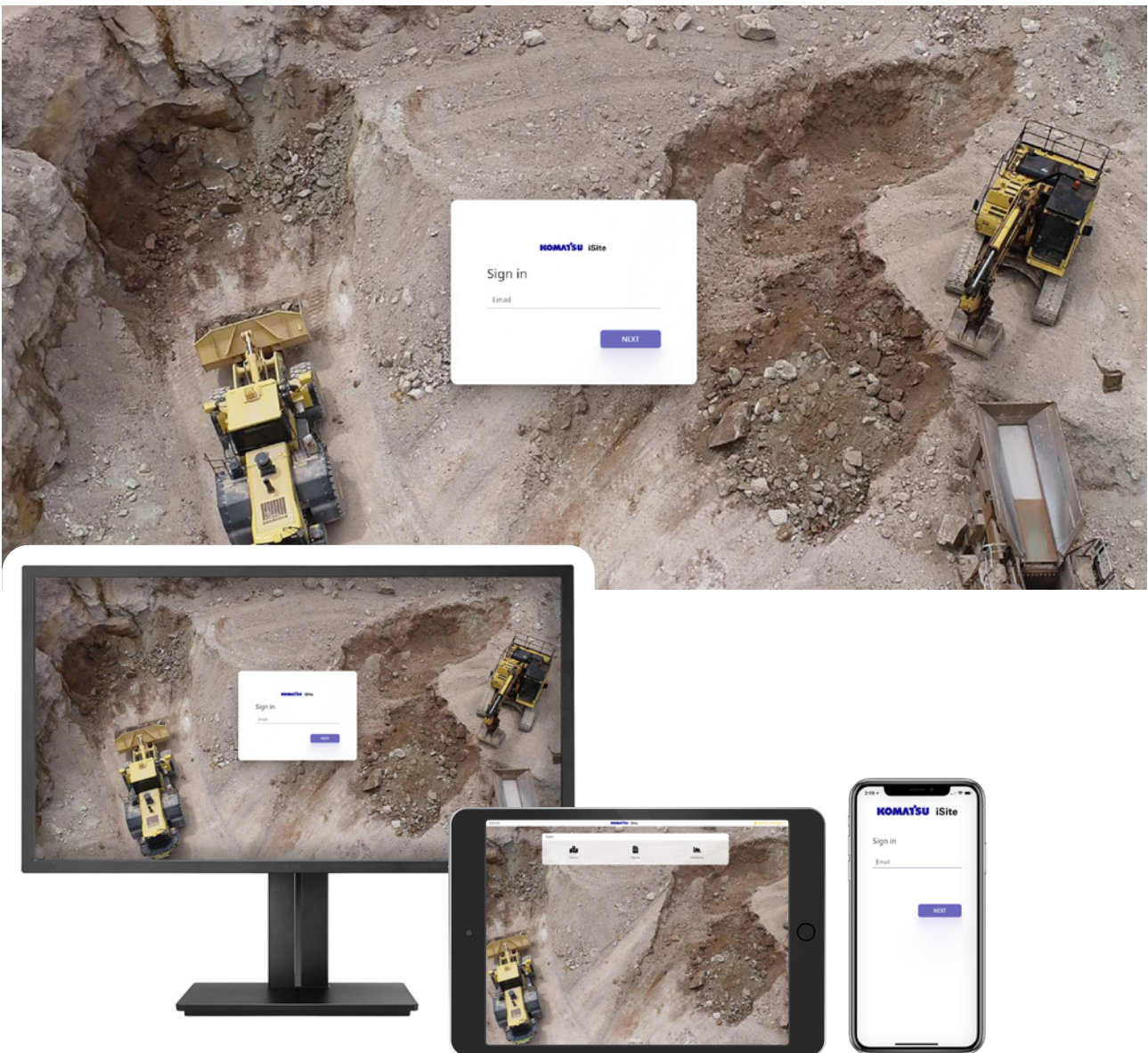
Summary PreStart report can easily be scheduled and made available for review or site audit requirements.



Free text can be easily added through editing feature of each defective PreStart item.

GoLine and User Management

Simple access to your site, anywhere, on any device. GoLine is a user interface that provides Komatsu iSite users direct access to their fleet and apps from one place.

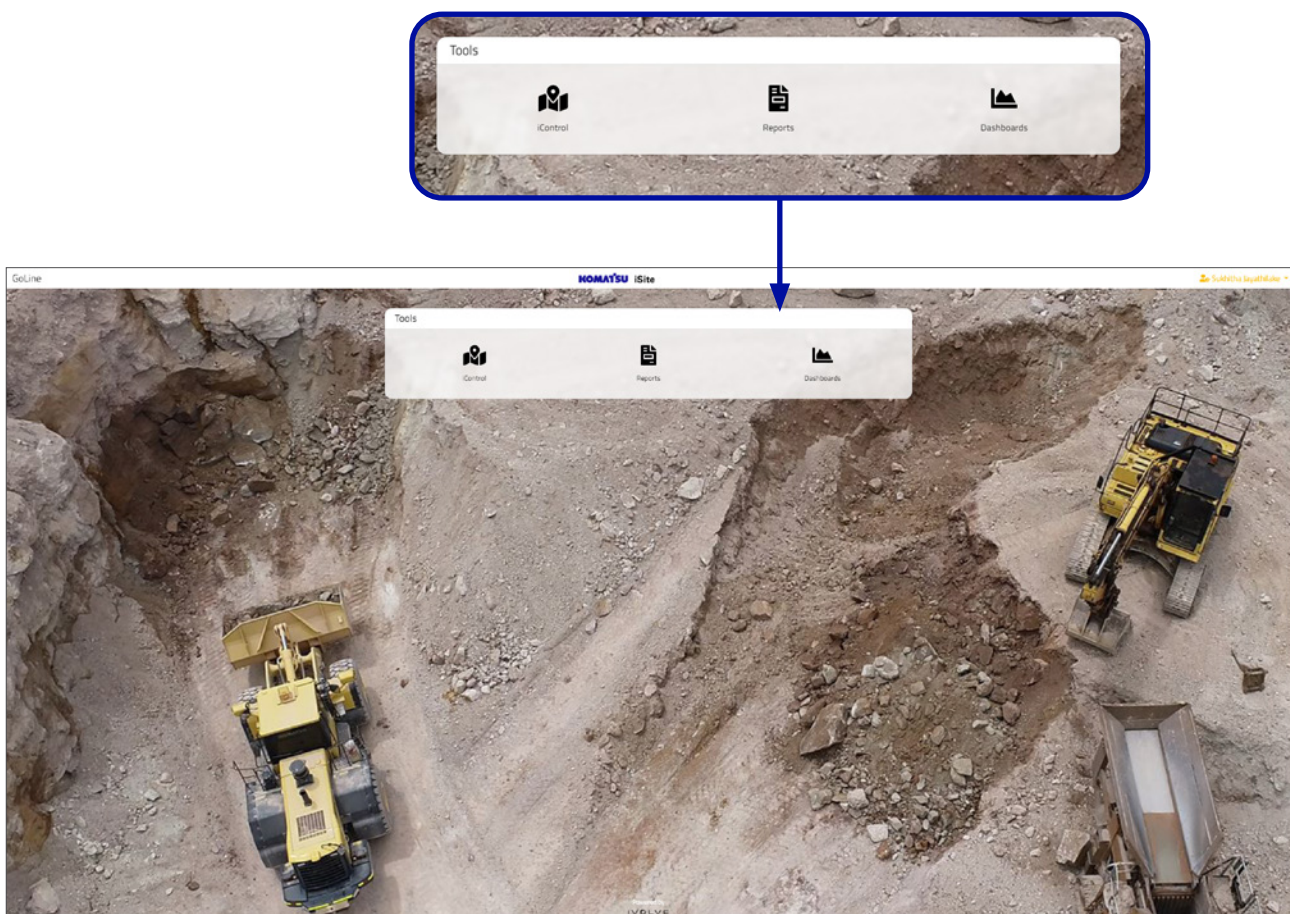


Overview

The following apps and tools are available (dependant on user permission);

- Access your dashboards
- Access and schedule your reports
- Access your back-end management
- Access iControl*
- Multiple site view available

Recommended Web Browser



* iControl Application must be first installed on your personal device (PC or Laptop).

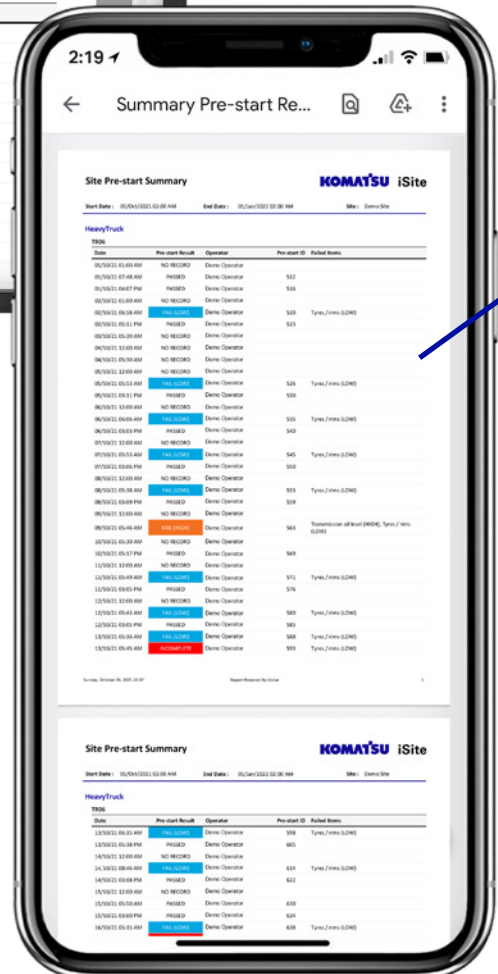
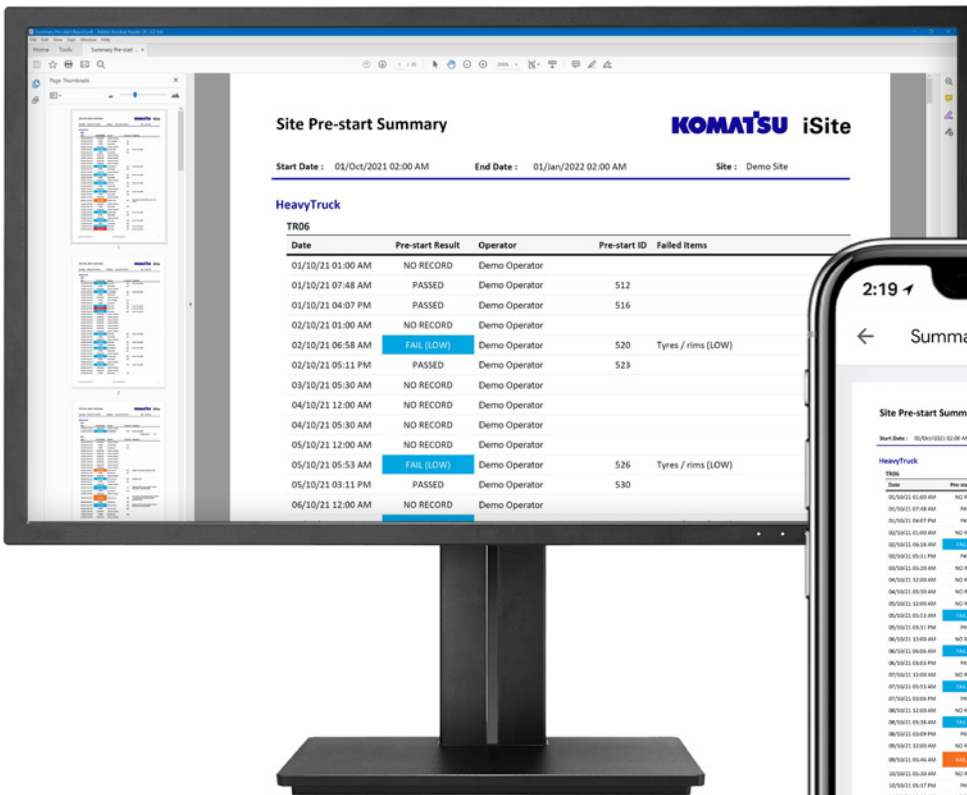
** Single sign on is under development to connect your cloud single sign on – AZURE/AWS/Google.

iReport

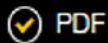
iReport is an online reporting tool that can be accessed via Komatsu iSite and provides summary production data in a format configured to site needs.

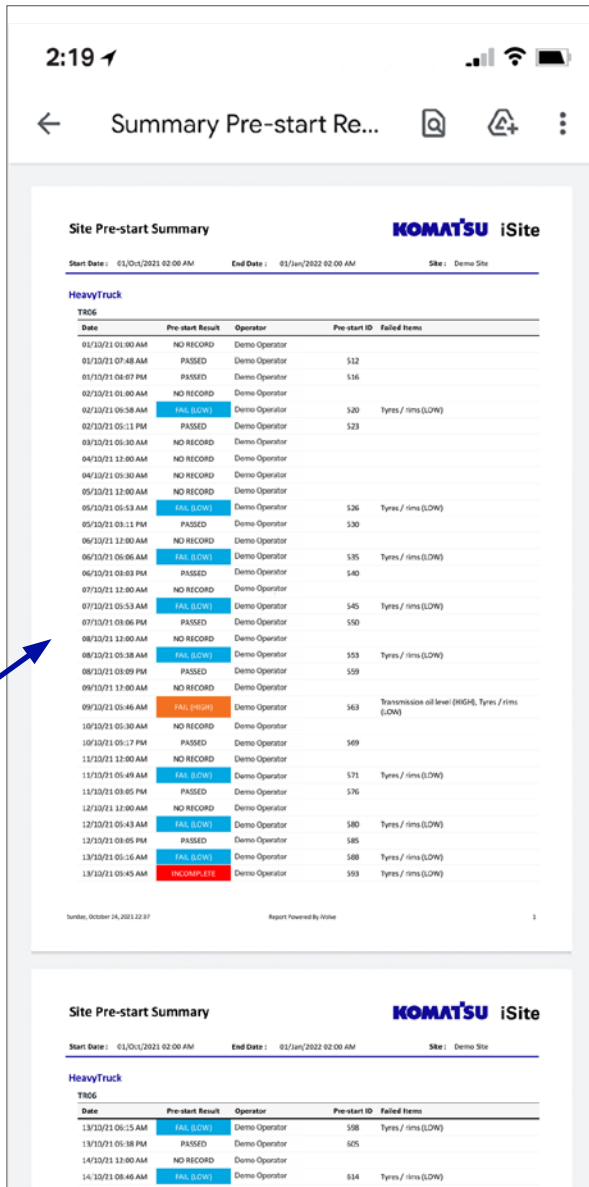
- **Access all historical data:** Includes both standard and customised reports.
- **Do it all:** Save, print and share reports easily.

- **Set and forget:** To schedule recurring reports, choose a report, a time, and the recipients.
- **Universally accessible:** Install once, access anywhere and on any device.



Export As





PreStart Reporting

- Get instant notifications by SMS or email.
- Detailed summary report for each PreStart.
- Any item that fails a PreStart is sent by SMS or Email to relevant site personnel.

Summary Report

- Be ready to support your site PreStart audits with full history of completed PreStarts and easily generate reports for any date range.
- View failed items for the history of your PreStarts.
- All failures are specific to the machine and based on severity.

Customised Reports*

Are available and can be scheduled in the back office by the site administrator.

* Customised reports are available – see optional or required non-standard options for available reports.

Dashboard Overview

The Komatsu iSite dashboards provide real-time and historical information about the production state, health and maintenance of your fleet. All data is updated in 5 minute increments.

Easily filter your dashboard view with incredible flexibility via the common menu along the top of the dashboards page.

Select a specific date range, choose which site (if managing multiple sites), select which shift, along with the ability to filter data displayed by circuit, specific vehicle or vehicle type, and specific operators.

Current Dashboards – Available

Utilisation Dashboard – Included in standard package.

Fuel Dashboard – Included in standard package.

Fleet Focus – Included in standard package.

Product (Trucks) Dashboard – Optional.

Operator Scorecard – Optional.

* Dashboards are part of the SaaS – Software as a Service connected to your Komatsu iSite Fleet Management solution they can be packaged to suit your requirements.



Utilisation Dashboard – Overview

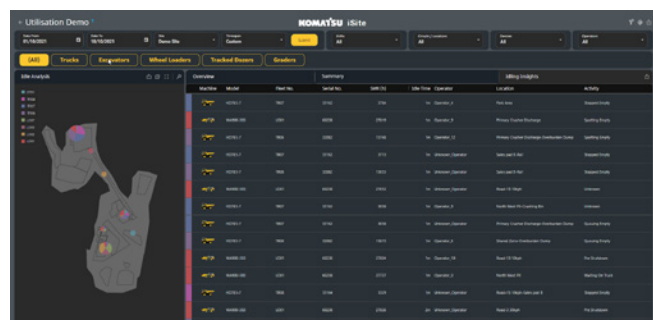


Utilisation

Graphical and tabular overview of the utilisation of your full fleet for incredible insights across site and detailed granular data.

Utilisation Dashboard – Summary

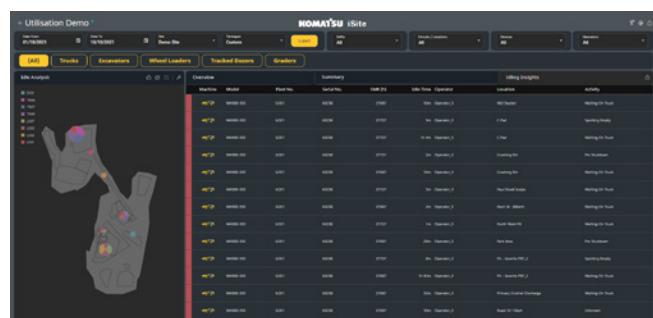
Summarise your fleet by mapping where idle is taking place. At a glance see your utilisation and idle trends over a selected date range or by current shift. Highlight top performing operators.



Utilisation Dashboard – Idling Insights

Idling insights allows you to see via the mapping feature, highlighting:

- Select a date range or by current shift.
- Idling location and idling event.
- Idle time by operator.
- Idling location [geo referenced].
- Idling by operational activity.



Fuel Dashboard



Fuel Consumption

Fuel Consumption broken down by machine, fleet and operator in relation to working hours and SMU. Visualise through Fuel Dashboard:

- Fleet analysis litres per hour and litres per tonne.
- Fuel consumption litres per hour and litres per tonne.

- Operator analysis of operation by litres per hour.
- Select current shift, date ranges, by circuit, by machine, or by operator.

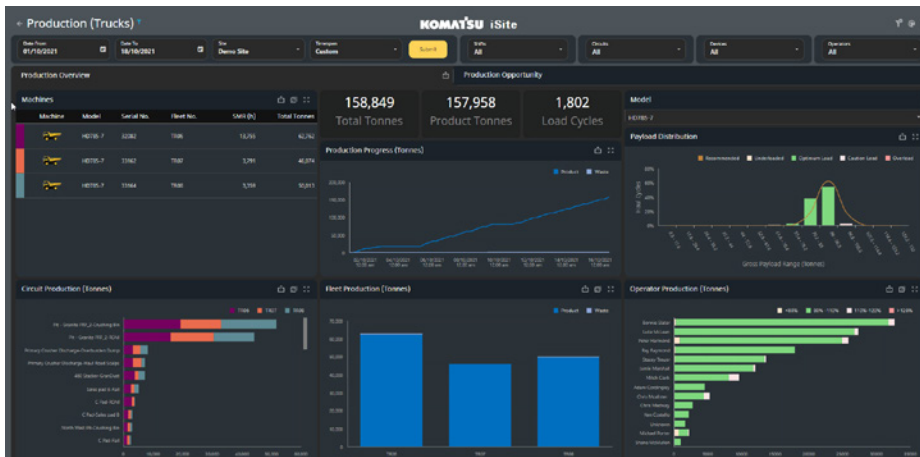
Fleet Focus Dashboard

Fleet Focus

- **Serial No:** Links to the Komatsu store for simple search to source parts.
- **SMR:** The SMR is updated immediately as data is available through API or direct by J1939 the CAN protocol.
- **Health:** Machine health at a glance – shows last 3 active events.

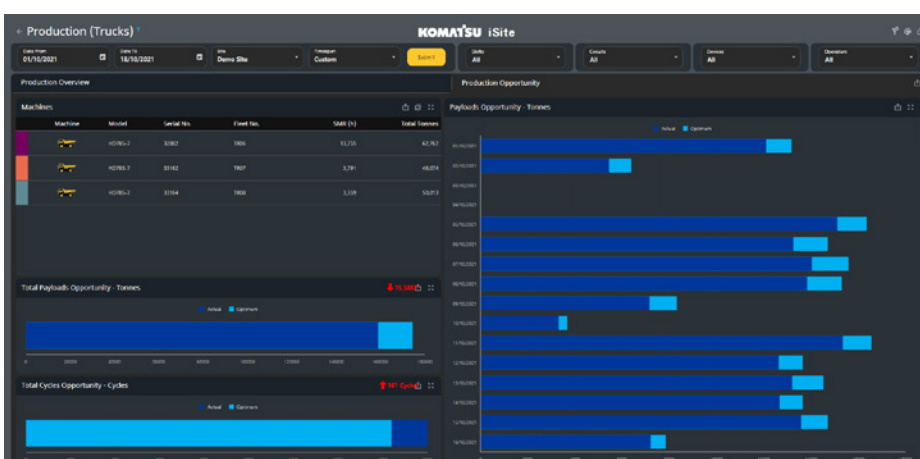
- **PreStart:** Shows latest PreStart check result for the current shift and access to PreStart detailed report.
- **Events:** Latest 3 based on most severe events in the current shift for the given vehicle.
- **Communication:** Shows the latest communications status received from that vehicle in the current shift.

Production Dashboard - Trucks



Production

- **Machines:** Your active production vehicles listed in an easy to view table with key data including model, serial number, site fleet number, SMR, and total tonnes.
- **Production progress:** Graph showing your production progress in tonnes throughout the shift.
- **Payload distribution:** Instantly know how efficiently your loading tool is loading the trucks. Overloads and underloads are easily identified with payload opportunity visualised.
- **Circuit production:** View the productivity (tonnage) of each circuit broken down by truck.
- **Fleet production:** View the productivity (tonnage) by each truck.
- **Operator production:** Easily monitor operator performance based on the 10, 10, 20 rule. Easily swap between truck models to view the relevant distribution curve.



Production Opportunity

- At a glance understand the breakdown of total truck payload opportunity by tonnes and number of total load cycles.
- Benchmarked against actual production payloads and cycles completed.
- Make changes to production trucks immediately increasing production and shortening your ROI.

Operator Scorecard Dashboard



Operator Scorecard

Delivers at a glance operator performance by individual or benchmark against other operators at your site, enhancing operations and encouraging best practice. Quickly visualise:

- Operator efficiency based on the individual's last shift.
- The operator's rank movement from last shift.
- Group performance and category performance by group average.
- These rankings are a collective from operational data, over 5 key metrics:
 - Utilisation, speeding events, PreStart completion, production and fuel consumed during operation.



iControl

iControl – Application

iControl is a map-based tool that provides a real-time overview of the fleet and assets on site.

View

- Instantly see the location and status of vehicles & operators.
- Instant snapshots of production data for each vehicle and circuit.
- Dashboards show real-time progress of the shift vehicle timeline.

Manage: your backend by yourself, easily updating and editing production data, operators, vehicles, PreStarts, material lists and geofences.

Analyse: Replay, analyse and report historical fleet movements including position, speed, events, heading, operational height and PreStart status for each shift.

Peer to Peer and Machine Handshake

Once loading has been instigated, the vehicles will automatically "pair".

Retrospectively: the queue and spotting times will be back-calculated from when the truck crossed the queue and loading radius of the paired loader/excavator.

If for any reason pairing does not occur automatically, the truck/excavator operator can manually pair by tapping the highlighted vehicle ID box at the top of the screen.

Data is exchanged automatically between paired vehicles: vehicle IDs, target & actual tonnage, material, destination.



The Komatsu iSite Mesh Network is made up of a collection of wireless networking devices running Komatsu iSite mesh networking software.

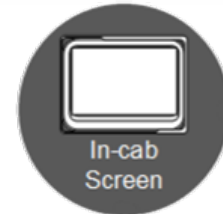
These wireless devices "Machines" automatically recognise and talk to each other

The Komatsu iSite Mesh Network automatically routes network traffic between the available wireless nodes so that it reaches the intended destination in the most efficient way possible.

Hardware – Main Components

Ruggedised 8" Operator Panel

Operators benefit from real-time performance feedback, while concentrating on the collection of additional operational data. Easy operator user interface with added machine specific electronic PreStart checks including automatic notifications.



Features

Purpose built: Excels in tough environments built to withstand high vibration, shock and wide temperature variance.

It offers high performance fanless operation and IP-65 certification.

Quick installation: A single light weight cable with latched connector provides both power and data to the device. Various installation solutions are supported via a flexible RAM standard bracket.

Ruggedised Smart Interface Cable

The interface cable combines industry leading machine interface catalogue with support for the latest generation of heavy machinery.

The interface cable packs our best interface technologies into a single, small, light weight, ruggedised smart cable.



Features

Supports all Komtrax and Komtrax Plus interfaces including PLM.

Supports OEM agnostic interfaces including PLM Plug and Play operation. All platforms supported with remote updates available for software and firmware.

Quick downtime recovery with real-time fault detections, alerts and clean user interface SMW-311 multiband, 3-cable Global Cellular/ LTE, Wi-Fi & GPS Antenna.



The 3:1 Series antennas features 3 antenna elements in one radome

The unique feature of this model is that the cellular element (Cable 1) is extremely wide banded and can cover the traditional GSM/CDMA frequencies, 700 MHz LTE, 1.7 & 2.1 GHz AWS/UMTS bands and LTE/WiMAX at 2.5 or 3.7 GHz, all on a single board.



Features

The 3:1 antennas are compatible with legacy GPRS networks as well as next generation 4G and 5G networks.

Antenna also covers 2.4/5 GHz dual-band WiFi on the second antenna element.



Features and Benefits

In-Cab/Operator Features

- Simple, intuitive display design.
- Shift statistics displayed to both the operator and supervisor via dashboards for shared knowledge and tracking.
- New operator performance can be remotely monitored for quick feedback.
- Simple Sign-on. Operators sign on with the in-cab screen.
- Operator-centric data. All data logged is tied to a specific operator. This allows for monitoring and reporting of best work practices and pinpointing opportunities for training or enhancing operations by best practices.
- **PreStart:**
Flexible: Configure a simple pass/fail PreStart or more complex check lists customised for each vehicle's specific requirements.
 - Speedy fault reporting:
 - Eliminate Paper
 - PreStart policy to control when PreStart screen is presented (enable, disable, once per shift, once per shift per operator)
 - Free form comments on failed items (operator can add a comment to a failed item)
 - Auto-submit PreStart if not completed in set time (time configurable)
- SMS and email notification on failed PreStart
- PreStart report (Detailed)
- PreStart summary report (Basic)
- Visualise product targets to optimise payload opportunities and loading distribution.

Benefits

- Ease of use with minimal distraction.
- Start operating more quickly to maximise working hours.
- Easily log and manage faults specific to the machines to keep vehicles operating.
- Speed up unscheduled maintenance response with notification of faults.
- Eliminate time lost to manual data entry
- Clear instruction for operators with one source of truth.
- Real-time progress feedback for operators and their supervisors enables performance improvements
- Save time on data collection by eliminating the need for log sheets.
- Improve accuracy of data collection by eliminating human error.
- Easily locate vehicles and operators.

In-Office Manager Features

- Real-time data visualisation of your operation in the office.
- Simple data monitoring and adjustments.
- Standard and customised reporting capability for both scheduled and ad-hoc reporting.
- Time usage model. Because each site typically runs their own specific time usage model [shifts Start-Finish], sites can configure their system to align with their requirements. This allows for ease of monitoring and reporting.
- Intelligent activity and delay handling. When a vehicle has been idle for a set time, the operator is prompted to either confirm if the current activity is still valid or to enter a delay code. If the operator does not take action, the vehicle automatically selects a delay code (such as "Unknown Delay").
- Have the ability to track all your production data by specific operator.
- Create specific machine PreStarts – not generic items that don't reflect your machine, local options added or the brand of machine
- Setup notifications SMS and email to key stakeholders to manage PreStart faults
- Setup machine specific truck payloads to enhance the payload opportunity

In-Office Manager Benefits

- Enables real-time production decisions.
- Understand exactly what your vehicles are doing and when to make decisions to optimise their efficiency.
- Optimise vehicle utilisation.
- Save time on manual data collection.
- Improve accuracy of data collection by eliminating human error.
- Easily log and manage faults to keep vehicles operating.
- Speed up unscheduled maintenance response with notification of faults.
- Eliminate time lost to manual data entry.
- Easily add new operators and create personalised operator ID

GoLine Cloud-Manager Features

- Web interface that provides Komatsu iSite users direct access to their fleet and apps from one place
- Cloud portal for fleet management
- Responsive design (desktop, mobile, tablet)
- Access all apps from one place
- Single Sign-on (SSO)* available soon
- Hosted on Cloud but capable to be hosted On-Premise for remote sites.
- *ON PREM requires consultation with your Komatsu representative
- Personalised experience though role based access and relevant information display
- Multi-site capable

GoLine Cloud-Manager Benefits

- Easy access on any network or connected web browser.
- No complicated sign-in process based on your role at the site
- Add new users through the in-office manager access
- For multi-site users – see all sites easily through your user access – no complicated logins
- Local user management setup for individual users based on your role at the site quarry or construction site

iReport Features

- Access all historical data anytime
- Do It All: Save, email, and share reports easily
- Set and forget: Schedule recurring reports, choose a report, a time, and the recipients. Universally accessible: Install once, access anywhere on any device.
- Dashboards show real-time progress of the shift.
- Vehicle timeline.
- Replay, analyse, and report on historical fleet movements (including position, speed, heading, and operational height) and historical events.
- Manage operator, vehicle, and materials lists and geofences.
- Easily update and edit production data.

iReport Benefits

- Instantly see the location and status of vehicles & operators.
- Instant snapshots of production data for each vehicle and circuit.
- Scheduling makes reporting easy, saving time gathering data to report to management or auditors

Hardware Features

- BM2 combines industry leading machine interface catalogue with support for the latest generation of heavy machinery.
- Quick downtime recovery with real-time fault detection, alerts, and a clean web interface.
- New ECM parameters added automatically via remote software update.
- In-cab display offers operator benefits from real-time operational feedback.
- Purpose built
- Quick installation
- Ultra-bright screen
- 3 in 1 antenna (GNSS, WIFI, LTE)

Hardware Benefits

- Supports all Komtrax, Komtrax Plus & PLM and most other OEM Interfaces
- Plug and play operation with all platforms – XS, XG and XD series.
- Converts proprietary machine data into an open standard suitable for analytics and artificial intelligence applications.
- Instant on and smart setup.
- Simplify installs using the same parts and process across different vendors consistent on all models
- Ruggedised equipment tested in the harsh environments of quarry and construction sites
- Komatsu backed warranty and support
- Remote access to hardware to push updates and maintenance without needing costly site visits

Standard and Local Options

Standard Options – Hardware

- XD8 8" HD ruggedised operator panel
- 3:1 Antenna [GNSS/WIFI/LTE]
- BM2 ruggedised Interface cable
- PC Operator panel cab mounts
- XD8 power cable
- Installation of hardware to each machine
- Onsite commissioning for each machine

Standard Options – Software

- XD8 specific vehicle firmware / software
- Remote access availability to the connected machine
- BM2 Specific vehicle firmware / software
- iSite operational software and Installations
- iControl PC installation Application

Optional or Required Non-Standard Options – Hardware*

- Site access points for poor connectivity on site
- Komtrax translator – High-res data from Komtrax enabled machines
- Additional machine harness as required by the specific OEM

- Upgraded controllers as required by the specific OEM
- * Dependant on machine types, site connectivity and outcome of site readiness survey

Standard, SaaS, Training and Access Options

- Site readiness investigation and report
- Initial site master data site setup
- Cloud hosting and server maintenance
- Software and firmware remote updates
- User management – Go-line access base on permission levels
- Single or multiple site access through Go-line
- Operator training each vehicle, including PreStart – 1 day
- Fleet Focus dashboard – Access
- Utilisation dashboard – Access
- Fuel dashboard – Access
- Komatsu Support – Email / Phone
- Electronic Specific PreStart – Individual operator ID
- Peer to peer connected network
- Data and SIM – LTE connectivity



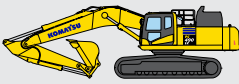


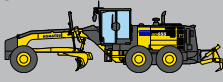

Optional or Required Non-Standard Options – SaaS

- **Required:** Admin training – Support your own site
- **Required:** Admin advanced training – Support your own backend
- **Optional:** Production trucks dashboard
- **Optional:** Operator scorecard dashboard
- **Optional:** Customised reports – Reports can be scheduled in the back office

Available standard and customised report types

Available Report Types	Download	Remove	Replace	Edit	Run
SMURReport	↓	×	↻	✎	▶
FleetUtilisation	↓	×	↻	✎	▶
Speed Infringement Breakdown	↓	×	↻	✎	▶
Individual Speed Infringement Report (Landscape)	↓	×	↻	✎	▶
Individual Speed Infringements (Ad-hoc Filtered)	↓	×	↻	✎	▶
Truck Production Summary	↓	×	↻	✎	▶
Material Movement by Truck	↓	×	↻	✎	▶
Detailed Pre-start Report	↓	×	↻	✎	▶
Summary Pre-start Report	↓	×	↻	✎	▶

Create report Upload new report

Komatsu Products				Other OEM
Products by Class (Not model dash specific)		KOMTRAX Enabled [Construction Class]"	KOMTRAX Plus [Mining Class]	Other OEM's – with Telemetry available Data [J1939 or API or PLM]
Model	Model Series	J1939 / API / *PLM	J1939 / PLM	
RDT 	HD325, HD405	✓		Equivalent size units from other OEM available
	HD605, HD785		✓	
*ADT 	HM300, HM400	✓		Equivalent size units from other OEM available
Excavator 	PC130, PC138, PC200, PC210, HB205			Equivalent size units from other OEM available
	HB215, PC220, PC240, PC270, PC290	✓		
	PC300, PC360, PC450, PC490, PC600			
	PC700, PC800, PC850, PC1250	✓	✓	
Loader 	WA150, WA200, WA250, WA270, WA320, WA380, WA430, WA470 WA480, WA500	✓		Equivalent size units from other OEM available
	WA600 , WA800, WA900		✓	
Dozer 	D61, D65, D71, D85, D155, D275	✓		Equivalent size units from other OEM available
	D375, D475		✓	
Grader 	GD655, GD825	✓		Equivalent size units from other OEM available
Other 	WB97R, SK820	✓		Equivalent size units from other OEM available

*PLM may be available on some construction models like ADT

Note: J1939, PLM and API connectivity to Komatsu iSite is dependent on hardware installed on the base machine, a site readiness survey will be conducted to determine any requirements for further hardware or software – Covered under the Optional or Required Non-Standard Options – Hardware



Learn more about Smart Construction by contacting your local Komatsu representative or visit: <https://komatsu.co.nz/innovation/smart-construction/bsite>

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0800 00 4127

