

Cat® Advanced Productivity App

for Cat Production Measurement 2.0



PRODUCTIVITY



With detailed production history, productivity, and efficiency metrics at your fingertips, you can better develop future project cost and profitability estimates to help improve the bottom line. The Cat® Advanced Productivity application is a web-based tool used to visualize Cat machine production-related data and complements Cat Production Measurement 2.0, a Cat PAYLOAD technology. The tool is accessed from VisionLink® and includes a user customizable report dashboard, cycle by cycle downloadable data, and a list maintenance feature for truck and material ID lists.

Go beyond basic operational status and production with actionable information answering specific questions essential to improving your bottom line.

KEY PRODUCTION METRICS	QUESTIONS ANSWERED	VisionLink Subscription + Cat Connect Technology		Advanced Productivity
		Essentials	¹ Payload + Essentials	² Payload + Essentials
Utilization & Fuel Use				
*Run time (daily)	<i>Is my machine being utilized?</i>	✓	✓	✓
*Fuel Consumed (daily)		✓	✓	✓
◊ Working		✓	✓	✓
◊ Idling		✓	✓	✓
*Fuel Consumption Rate		✓	✓	✓
Basic Productivity				
*Total Payload (daily)	<i>Is my machine being productive?</i>		✓	✓
*Payload / hour	<i>How efficiently is it producing?</i>		✓	✓
*Payload / liter (gal.)			✓	✓
Site & Material Management	<i>Is my machine doing what I expect?</i>			✓
*Application & segment detail	<i>What did it move? From where? To where?</i>			✓
◊ Time & Cycles	<i>How much time? How many cycles?</i>			✓
◊ Fuel & Distance	<i>How many tons of product X did I sell?</i>			✓
*Productivity & efficiency by operator	<i>To whom did I sell it?</i>			✓
*Production by material ID	<i>Which operators are my efficiency leaders?</i>			✓
*Production by truck ID	<i>Which need more training?</i>			✓
	<i>Do bottlenecks suggest adjustments to number, type & capacity in my fleet?</i>			✓

¹Payload Technology versions: Cat Production Measurement v1.0, v1.1, or v1.2

²Cat Production Measurement v2.0

TOOLS FOR SITE OPERATIONS MANAGEMENT

1. User customizable graphical dashboard

- makes it easy to visualize your operation's **Key Performance Metrics (KPI)**
- **SAVE TIME** and increase a manager's **EFFECTIVENESS** by automating data collection with timely reporting and presenting information in ways that help managers make more informed and quicker decisions; helping them spot opportunities to improve operational **EFFICIENCY** and financial **PROFITABILITY**.
- Fine-tune operations to improve **BIDDING ACCURACY** and increase **PROFITABILITY**.
- Highlight signs that haul roads might need maintenance for **QUICKER CYCLES** or monitor where bottlenecks are occurring to correctly match loading and hauling units to help **OPTIMIZE FLEET SIZING** and correct machine assignments.

2. Export data in .csv file format

- Export detailed cycle by cycle production data tagged by date, time, operator, material ID, truck ID, and application profile.
- Upload into your business/accounting systems; or for further analysis in applications such as Microsoft® EXCEL™.

3. Wireless off-board list management

- Create and manage your truck ID and material ID lists from the back office and "push" them wirelessly to your loaders³ to update their on-board lists on-the-go with no need to stop their operations.
- **SAVE TIME**, travel, and avoid lost **PRODUCTION**.

AVAILABILITY

L Series	M Series
950L	950M
962L	962M
966L	966M / M XE
972L	972M / M XE
980L	980M
	982M

Equipped with:

1. Cat Production Measurement 2.0 and
2. Product Link™ Elite PLE641 3G cellular telematics

INDUSTRIES

- Materials producers: mining, aggregates, sand and gravel, cement and asphalt, plants, fertilizer
- Metals industries: mills, smelters, scrap processors
- Municipal: waste and recycling, transfer stations

Essential KPIs Reported

- **Application Time:**
 - Application time: load/haul/dump, roading
 - Segment time: load, travel loaded, dump, travel empty
 - Runtime
- **Application Fuel:**
 - Fuel burned
 - Fuel burn rate
 - Segment fuel burned
 - Segment burn rate
- **Cycles:**
 - Cycle count
 - Average cycle time
 - Average fuel burn per cycle
 - Average segment breakdown (fuel, distance, and time)
 - Day tracker cycle
- **Payload:**
 - Payload per hour
 - Payload per fuel
 - Payload distribution plot



KPI data visualized in dashboard with interactive charts that can be customized to suit your preferences.

Manage material and truck lists from the office and synchronize wirelessly with the onboard lists of just one or your entire loader³ fleet.



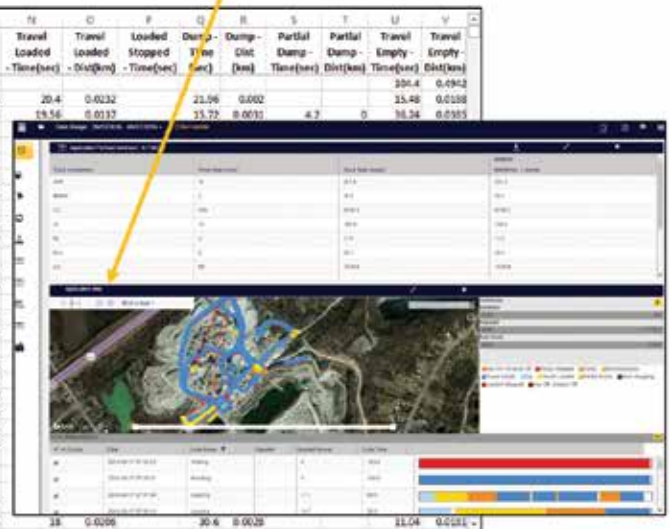
³Equipped with CPM 2.0 and subscribed in Cat Advanced Productivity app.

Export detailed production data as .csv files and import into Microsoft® EXCEL™ or your business accounting systems.

Bucket	Bucket	Bucket	Track	Track	Operator	Material	Material	Track	Track
Payload	Payload	Payload	Store	Store				ID	Description
Time [CST]	Sequence	Time/Date [CST]	Total	Total	Description	ID	Description		Description
5/12/2016 6:36	1	11.9246	5/12/2016 6:38	2	22.5003	001	C46 CRSH AG6	309	Carter Rd.
5/12/2016 6:37	2	10.4437	5/12/2016 6:38	2	22.0083	001	C46 CRSH AG6	309	Carter Rd.
5/12/2016 6:42	1	11.1278	5/12/2016 6:44	2	21.1397	001	C52 CRSE SVDW2	246	Williams Contr.
5/12/2016 6:43	2	12.0118	5/12/2016 6:54	2	23.1397	001	C52 CRSE SVDW2	246	Williams Contr.
5/12/2016 6:45	1	11.1771	5/12/2016 6:47	2	23.1009	001	063 GREY GRAIN3	141	Klien Trans.

Start Time [CST]	Operator	Application	Total Cycle Time(sec)	Total Cycle Dist(km)	Cycle Fuel(l)	Moved Payload (tonne)	Start Latitude	Start Longitude	Destination Latitude	Destination Longitude	Dig - Time (sec)	Travel - Dist (km)	Travel - Time (sec)	Loaded - Out(km)	Loaded - Time(sec)	Dump - Time(sec)	Dump - Dist (km)	Partial - Time(sec)	Partial - Dist(km)	Travel - Empty - Time(sec)	Travel - Empty - Dist(km)
5/12/2016 6:34	Bob P.	Roading	101.4	0.4942	1.5218	88.5368184	-90.17524718	88.5387204	-90.17699718											101.4	0.4942
5/12/2016 6:35	Bob P.	Loading	54.36	0.0476	0.6009	11.9246	38.54061306	-90.17657471	38.54026188	-90.17652803	6.72	0.0026	20.4	0.0232	22.56	0.002	4.7	0	15.48	0.0188	
5/12/2016 6:37	Bob P.	Loading	55.36	0.0586	0.7834	11.5667	38.54058075	-90.17657471	38.54058075	-90.17657471	5.28	0.0028	19.56	0.0137	15.72	0.0011			18.34	0.0185	

Explore the "what, when, and where" of activity on your site with the "Application Map View" tool.



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