

JOHN DEERE WORKSIGHT™

TECHNOLOGY SOLUTIONS



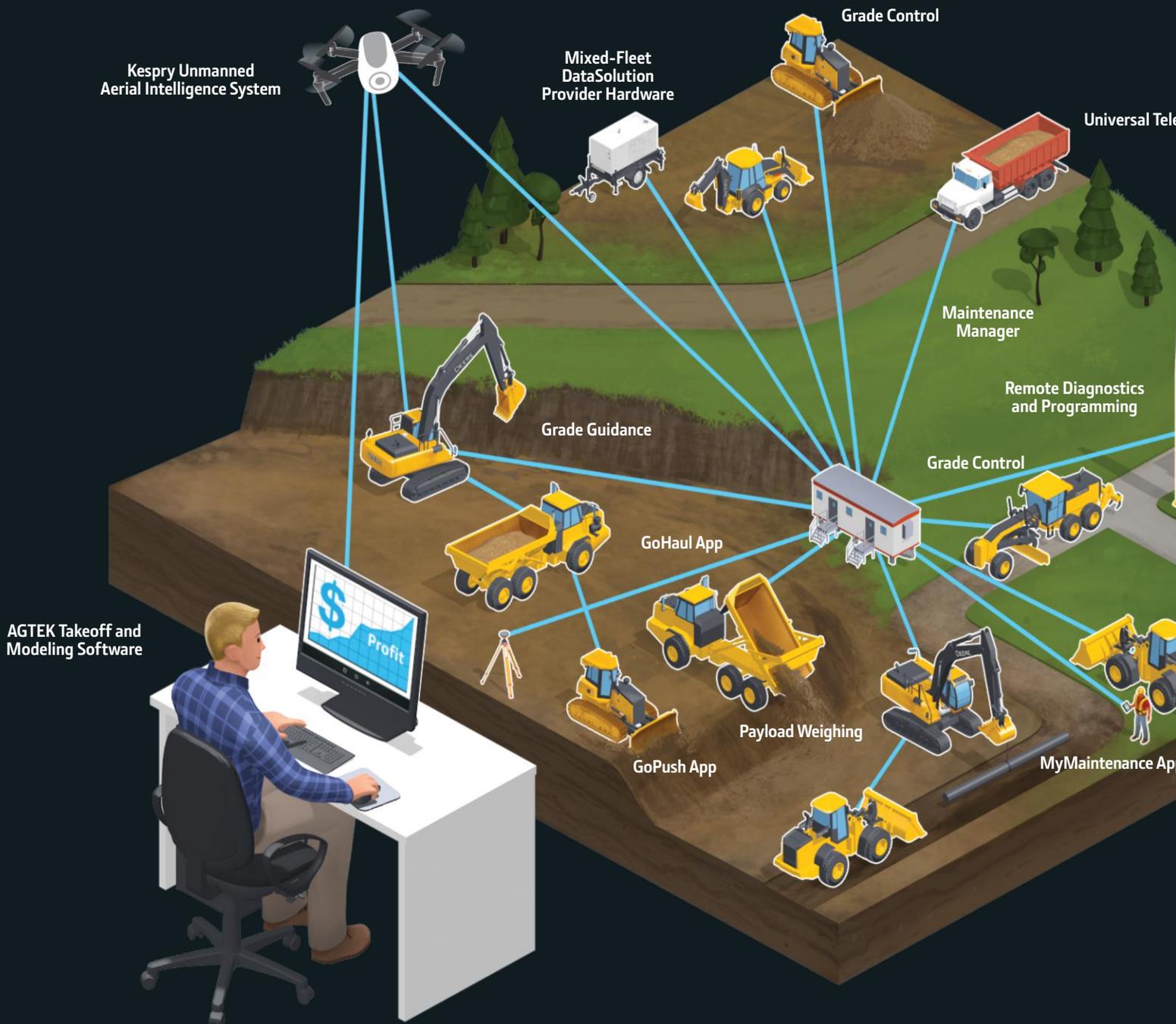
JOHN DEERE



JDLINK™ MACHINE MONITORING
MAINTENANCE MANAGER
MIXED-FLEET DATA SOLUTIONS
MACHINE HEALTH
REMOTE DIAGNOSTICS AND PROGRAMMING
UNMANNED AERIAL INTELLIGENCE SYSTEM
TAKEOFF AND MODELING
GRADE CONTROL
PAYLOAD WEIGHING
DEALER SUPPORT
MOBILE APPS

Bringing machines, technology, and your dealer together to make your job easier

John Deere WorkSight™ turns data into solutions to optimize machines, uptime, and your jobsite. Benefit from improved profitability with John Deere WorkSight.



Optimize machines:

- Identify unused machines so they can be redeployed.
- Compare fuel-burn rates across multiple machines.
- See time spent idling to reduce unnecessary fuel consumption.
- View engine load and fuel consumption to match machine size to the job.
- Monitor articulated dump truck (ADT) and wheel loader payload and trip counters to ensure proper loads and maximize efficiency.
- Set up virtual fences and authorized hours of use to improve security.
- Locate and get directions to your machines to save significant time.

Optimize uptime:

- Dealer machine health monitoring speeds response time and reduces or avoids costly downtime.
- Remote dealer diagnostics, machine-performance recordings, and even over-the-air software updates reduce the time and costs associated with a technician trip to the jobsite.
- Alerts sent to your computer, mobile device — even your dealer if you choose — inform you immediately of machine issues so you can address them quickly before they cause costly repairs and downtime.
- Machine-health recommendations identify potential problems early so you can avoid more costly repairs down the road.
- Payload and tire-pressure monitoring on wheel loaders and ADTs help reduce tire wear and replacement costs.
- Maintenance tracking on the web or a mobile device helps you schedule services and understand your maintenance costs to improve uptime and trade-in value.

Optimize jobsites:

- Analyze time spent in gear to identify operator-training opportunities.
- See fuel levels to forecast efficient refueling.
- Reduce grading passes and the amount of base material required.
- Confidently adjust required margins in estimates to be more competitive.
- Using Kespry, autonomously collect survey-grade topographic data in minutes.
- Ease the takeoff, modeling, and project-management phase of grading jobs.
- Monitor ADT and wheel loader payload and trip counts.
- Quickly load trucks to order.
- View historical data on fuel consumption, passes, and payloads for reference on similar jobs.
- Review your John Deere telematics data in the mixed-fleet data solution of your choice.

ematics





Manage multiple machines from one place

JDLink is your connection to the profitability-enhancing benefits of John Deere WorkSight™. From the fleet-management fundamentals of knowing the hours and location of all brands, to sending machine-health alerts and tracking machine production on Deere machines, JDLink can help you centrally, smartly manage your entire fleet and grow your business.

Dual-mode option

If you work in extremely remote locations with spotty cell coverage, opt for the JDLink satellite module. JDLink will transmit via cellular coverage unless a connection can't be established — then JDLink switches to satellite mode to transmit information.

A machine communicating via satellite will report hours, location, alerts, and many other data sets. Call-in frequency for a machine communicating in satellite mode is once per day. Red alerts and geofence violations are sent immediately at any time, just like when in cellular coverage.

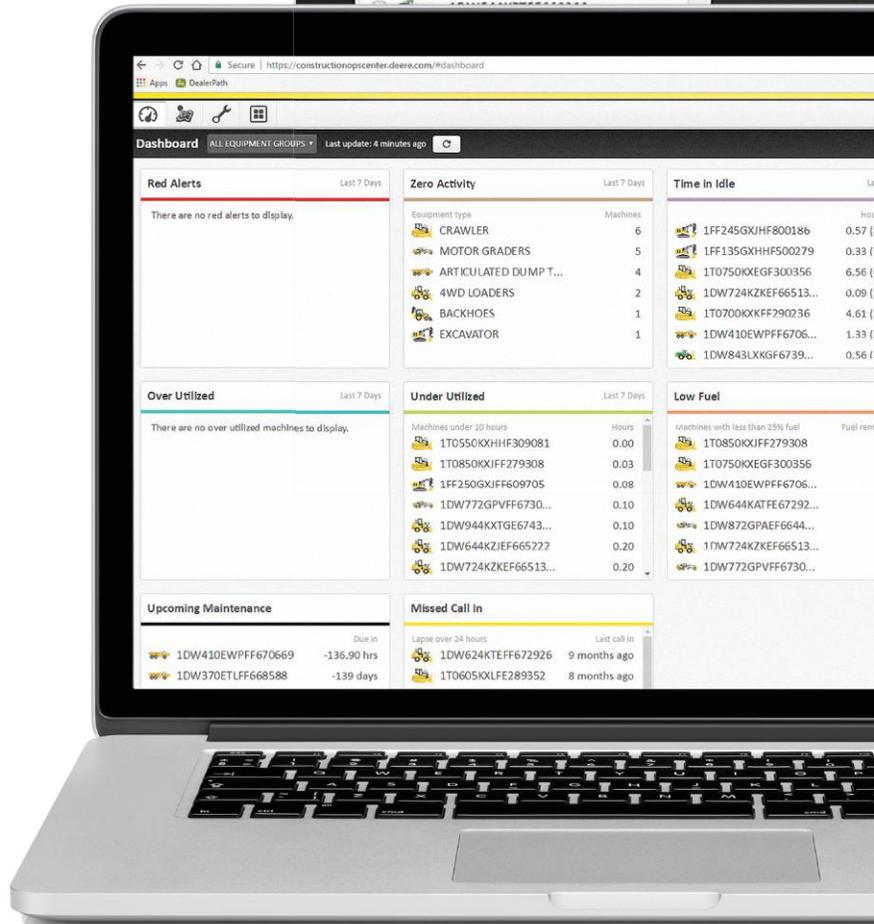
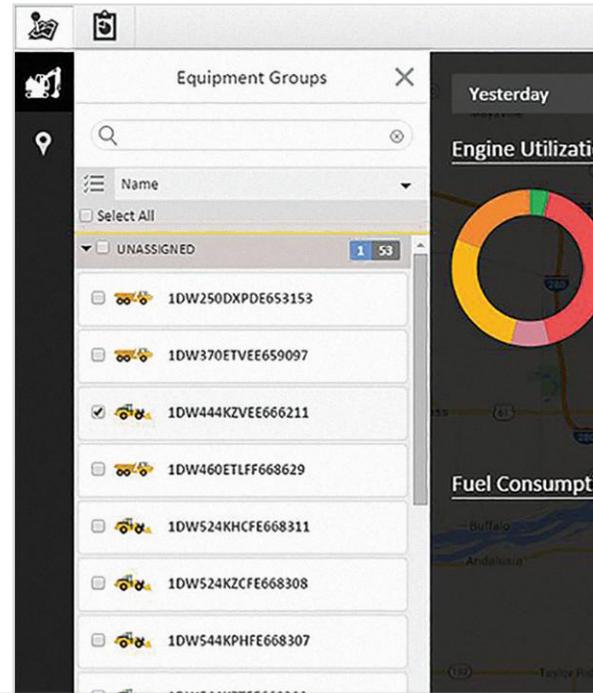


Satellite communication

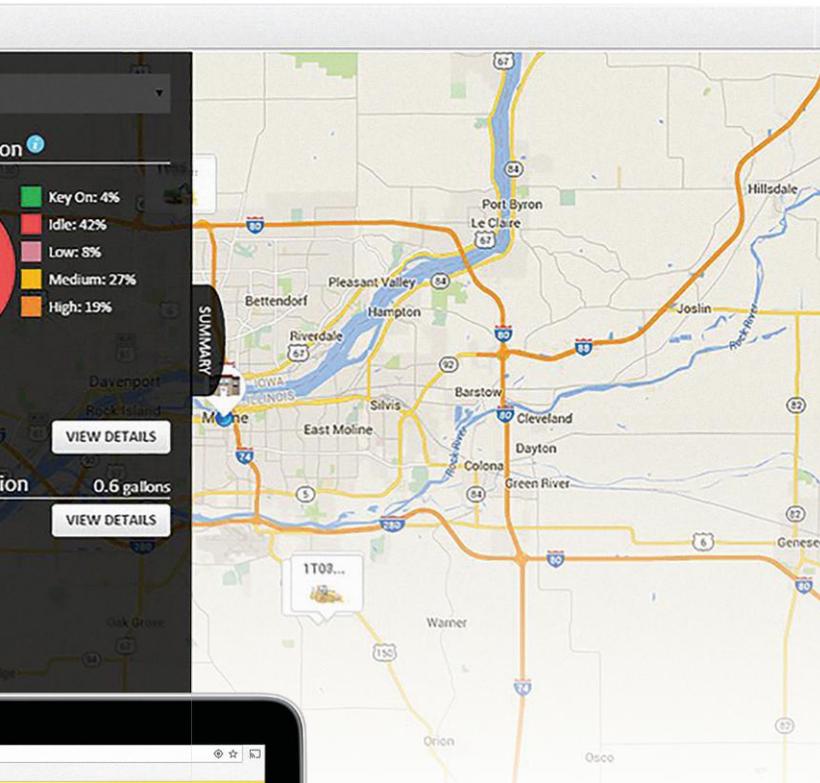


Cellular Coverage

A quick view of vital info: The dashboard screen shows red alerts, machines with zero activity, time in idle, utilization, low fuel, and upcoming maintenance.



For optimal performance of JDLink Dashboard, John Deere recommends the latest versions of these browsers: Microsoft Internet Explorer®, Google Chrome™, Mozilla Firefox®, or Apple Safari®. Use a screen resolution of 1024x768 or greater.



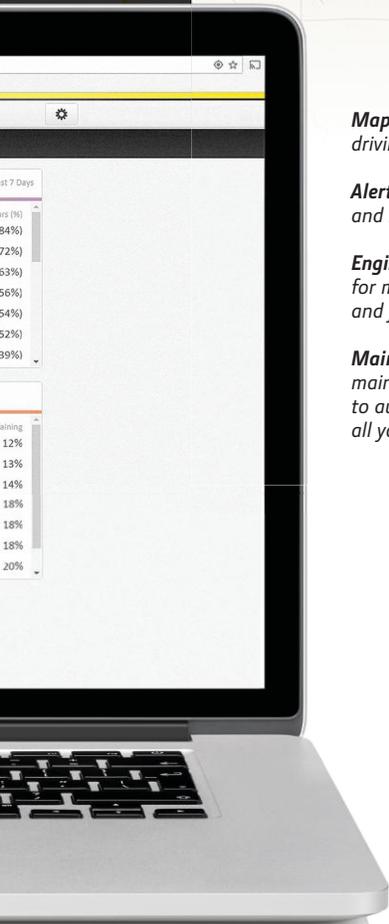
Maps: Current location, location history, and driving directions.

Alerts: Diagnostic trouble codes, maintenance, and security.

Engine hours: Daily, weekly, and cumulative hours for maintenance planning, utilization analysis, and jobsite cost tracking.

Maintenance: Enroll in a factory-recommended maintenance plan or a custom maintenance plan to automatically track upcoming intervals due for all your enrolled machines in one place.

JDLINK	
Hardware	MTG/Satellite
Power required	Yes
Equipment brands	John Deere
Equipment type	John Deere construction equipment working in remote and/or high-production applications — comes standard on most new John Deere construction machines with five years of service
Benefit	An ultra-rugged solution for harsh conditions; provides satellite compatibility; CAN bus data access provides the most complete machine and operator information; data can be integrated into your business process
Features	<ul style="list-style-type: none"> – Geofence – Curfew – Machine grouping – On-demand updates – Machine hours – Maintenance tracking – Equipment utilization and engine load levels – Fuel consumption – Operator-productivity indicators – Payload and trip counter for ADTs – Tire pressure monitoring – Diagnostic trouble code alerts – Alerts sent to cell phone or email with escalation options – Remote-diagnostics and -programming capability – Dual-mode satellite option – JDLINK mobile app for Apple iOS or Android – Dealer data services/third-party access



JDLINK can be set up to send alerts via email or Short Message Service (SMS) text so you're always in the know. Alert escalation levels can be set to be sent to multiple contacts if acknowledgement is not received within a predetermined time period. There are also JDLINK apps for Apple iOS, iPhone and iPad, and Android devices that provide machine location information, engine hours, the ability to view and acknowledge alerts, and JDLINK data such as fuel consumption and level, average ground speed, and engine utilization.

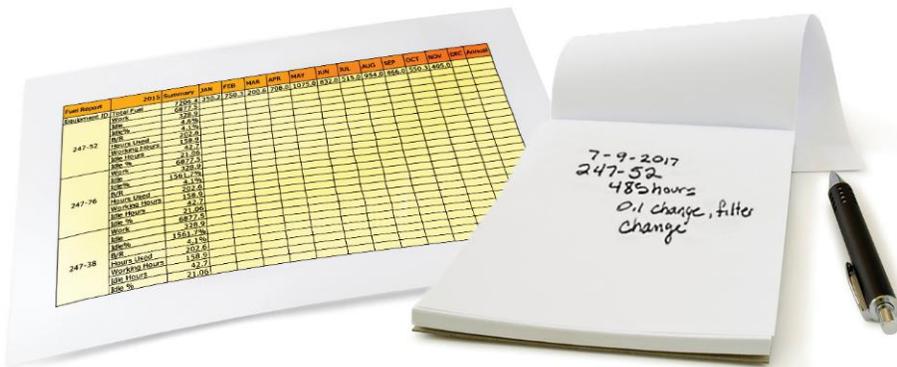


An easier way to manage your maintenance

If you handle the maintenance on your equipment, you know that keeping track of intervals on multiple machines can be a headache. Now you can leave inefficient written notes, job-trailer charts, and spreadsheets behind. Maintenance Manager is a tool found in the JDLink™ Dashboard that enables you to easily configure a maintenance plan for every machine in your fleet. Tracking upcoming maintenance and logging completed service is quick and easy. You'll be alerted when maintenance is coming due. You can even track mixed-fleet maintenance by connecting non-Deere-powered assets to the application with a JDLink Fleet Monitoring Terminal.

The old way is a way of the past.

Maintenance Manager makes machine maintenance planning quick and easy, allowing you to leave old ways behind.



1DW744KXLEF664578 Serial: 1DW744KXLEF664578
John Deere 744K 4wd Loader Current Machine

[Back to Manage Plan](#) **Test1**

Plan Summary FACTORY PLAN


Test1

STATUS
Draft: Plan setup in progress

STARTED Jan 21, 2016 **ENDS** Jan 21, 2021

PLAN DETAILS

PLAN STARTS AT
100 engine hours

MACHINE INFO

USAGE ESTIMATE
2000 engine hours per year

FLUIDS

- ENGINE - OIL**
PLUS-50 II
- WHEELS AND BRAKES - OIL**
HY-GARD
- TRANSMISSION - OIL**
HY-GARD
- REAR AXLE - OIL**
HY-GARD
- HYDRAULIC - OIL**
HYDRAU
- COOLING SYSTEM - COOLANTS**
COOL-GARD II
- FRONT AXLE - OIL**
HY-GARD

4KXLEF664578
e Hours: 326

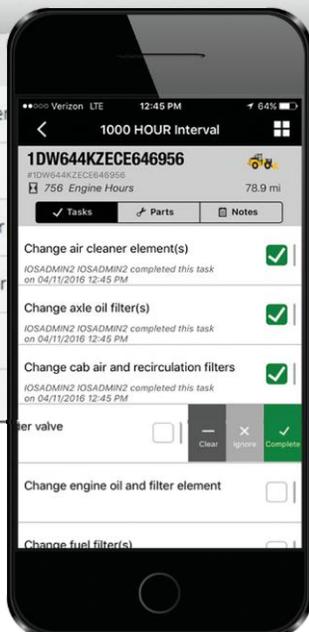
Maintenance Tasks

AT 250 ENGINE HOURS

TASK	CATEGORY
Change axle oil filter(s)	Rear axle
Change front axle housing oil	Front axle
Change rear axle housing oil	Rear axle
Check engine coolant level	Cooling system
Check engine oil level	Engine
Check hydraulic oil level	Hydraulic
Check pin seals	General
Check transmission oil level	Transmission
Clean dust unloader valve	Engine
Lubricate linkage and pivot points	Lubrication
Test engine oil	Engine

AT 500 ENGINE HOURS

TASK	CATEGORY
Change engine oil and filter	Engine
Change fuel filter(s)	Engine
Change hydraulic reservoir	Hydraulic
Change in-line fuel strainer	Engine
Check air intake system	Engine
Check axle oil level	Engine



Maintenance Manager

Let Maintenance Manager do most of the work

Start with a factory-recommended plan pre-populated with tasks and service intervals. From there, you can accept the plan as is or easily:

- Edit task intervals.
- Delete tasks from the plan.
- Add custom tasks.

The end result is a plan that is exactly the way you want it for each of your machine's maintenance programs.

Or do your own thing

You can also build your own plan from scratch. Maintenance Manager lets you create your own task name, assign a category, and specify the interval type and frequency. The build-your-own option may be attractive if there are only a few key maintenance tasks you're concerned about tracking.

Alerts

Once your plan is set up, you'll receive alerts 50 hours before each task is due. Alerts will display in the JDLink maintenance pod as well as on the JDLink Dashboard.

Monitor status

You can view the status of all your intervals in the Maintenance pod within JDLink or on the Maintenance screen in the JDLink Dashboard.

History and logging

Simply open the machine details and go to the Maintenance Log to view maintenance history and log any completed maintenance tasks. You can also use the My Maintenance mobile app.



Rugged and dependable hardware

HARDWARE	DESCRIPTION
4G LTE Modular Telematics Gateway (MTG) with Wi-Fi and Bluetooth technology	The 4G LTE MTG is a rugged military-grade device designed to perform in harsh environments. It is standard equipment on most new John Deere construction models and also available as a field kit. In addition to fast data transfer, you can tether to a smartphone or hotspot to transfer data using a Wi-Fi connection to the Internet in areas with poor cellular coverage. Wi-Fi setup is completed using the John Deere SolutionsPlus™ mobile app, available in the Google Play™ Store and iTunes® Store.



Ask about fleet-based pricing

When it's time to renew your JDLink subscriptions, we offer significantly discounted pricing based on the number of subscriptions required for your fleet. Ask your dealer for details.

For optimal performance of JDLink Dashboard, John Deere recommends the latest versions of these browsers: Microsoft Internet Explorer®, Google Chrome™, Mozilla Firefox®, or Apple Safari®. Use a screen resolution of 1024x768 or greater.

View your mixed-fleet data where you want it

Nearly every fleet includes multiple brands of equipment assets. And most companies want to track their entire fleet in one place to help reduce multiple logins to different telematics portals.

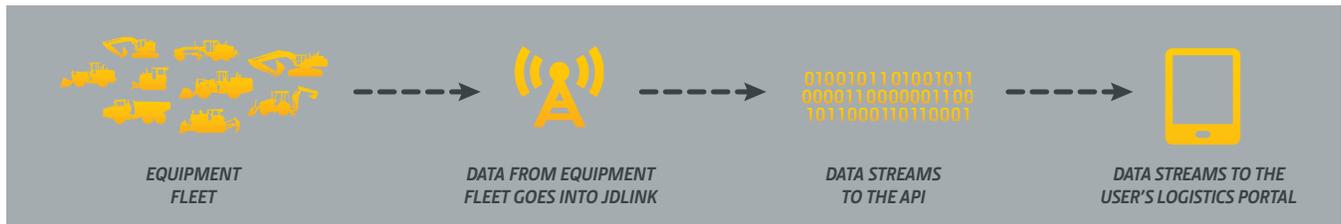
The JDLINK™ Machine Data Application Programming Interface (API) converts your JDLINK data to AEMP 2.0 and ISO 15143-3 standards so it can be utilized by the John Deere-endorsed mixed-fleet data-solution provider that you prefer.

John Deere-endorsed providers

We participate with several popular construction industry system providers to enable fast, easy implementation of the JDLINK Machine Data API. Select Mixed-Fleet Data Solution Providers from the Tools page in the JDLINK Dashboard to learn more. You may already be using one of these providers, or you may want to sign up to get started. We've made it easy — and the choice is yours.

Hardware options

Each mixed-fleet data solution provider also offers hardware to enable telematics on assets without a telematics terminal, such as compact equipment, over-the-road trucks, and even non-powered items such as trailers. Data from these assets is then viewable in the respective data-solution provider's application. Your John Deere dealer can also provide a hardware solution if you'd prefer to manage basic data for assets such as these within the JDLINK Dashboard.



THE JDLINK MACHINE DATA API

Meets AEMP 2.0 and ISO 15143-3 standards

INCLUDES DATA ELEMENTS SUCH AS:



HOURS



LOCATION



FUEL



UTILIZATION



DIAGNOSTIC
TROUBLE CODES



PAYLOAD-
SCALE DATA



The power to see through iron and steel

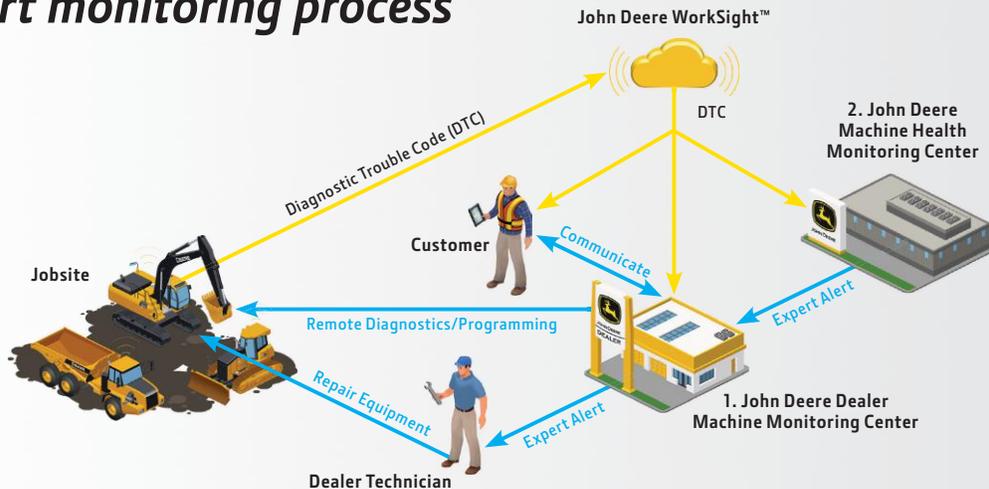
To maximize the uptime of your equipment, we deliver improved machine health through an advanced dual approach:

1. Specialists at your dealer's Machine Monitoring Center use the latest telematics and alert management tools to filter and analyze the JDLink™ data generated by your machines. They can also incorporate more traditional inputs, such as fluid analysis results. This enables them to quickly identify critical issues and react — sometimes before you even know there is a problem.
2. Our central Machine Health Monitoring Center located inside John Deere Dubuque Works archives data from thousands of connected machines. Specialists identify trends within the data, determine causes, and develop new and improved preventative maintenance and repair protocols called Expert Alerts. These alerts are deployed to dealer Machine Monitoring Centers to continuously improve the speed and accuracy of machine-health solutions.

You can hand over all machine-monitoring responsibilities to your John Deere dealer. Or they can monitor your fleet in conjunction with your own maintenance team.



Alert monitoring process



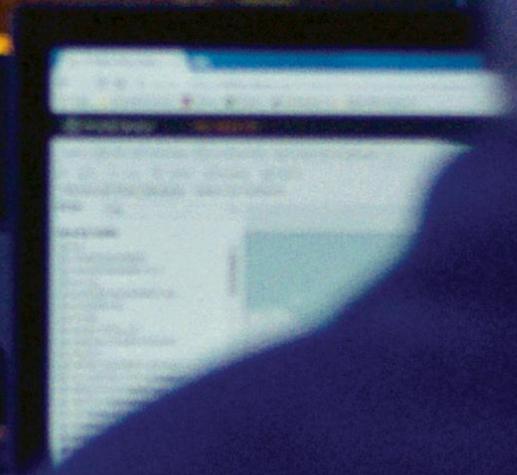
An excavator sends a Diagnostic Trouble Code (DTC) to your JDLink Dashboard. When you utilize your dealer's machine monitoring services, the DTC also goes to your dealer's Machine Monitoring Center. The Machine Monitoring Specialists there can let you know if an issue is critical and requires action. They can even perform additional diagnostics and software updates without a trip to the jobsite if needed (see pages 12–13 for more details).

While your dealer focuses on addressing issues that may immediately impact you and your fleet, the Machine Health Monitoring Center continuously analyzes data from thousands of machines. The insights that only this big picture can provide help them develop and deploy solutions so your dealer can repair machines faster and even help you avoid unexpected downtime altogether.

Response time is quick, and many times problems can be addressed before they cause downtime. When service technicians do visit the machine, they can often arrive with the parts to make the repair already in hand.

MACHINE HEALTH MONITORING CENTER

THE POWER TO SEE THROUGH IRON AND STEEL.





Faster, less costly repairs

What if your dealer could warn you of problems with your machine and initiate solutions without visiting the jobsite and charging you for a technician’s travel time?

That’s what you get with John Deere WorkSight’s exclusive remote diagnostics and programming. Your Deere dealer can help you reduce downtime by accessing and resetting diagnostic trouble codes and recording performance readings remotely.

Remote performance recordings

If your machine malfunctions at 1,000 rpm, for example, your Deere dealer can use remote diagnostics to record particular machine parameters at that rpm. The technician doesn’t need to be onsite. And readings can be taken at full machine functionality, eliminating downtime.

If parts are needed to fix the problem assessed via remote diagnostics, the technician arrives onsite with the right parts without an initial trip to the field.

Remote software updates

Using remote programming, your machine can also receive wireless software updates, avoiding a technician having to come to the jobsite with laptop in hand.

Your fleet management and maintenance team gains twice the bench strength when your dealer and your machines are connected through remote diagnostics and programming. The advantages to owning John Deere just got a lot more compelling.

Three real-world examples of how John Deere WorkSight™ significantly optimizes uptime:

EXAMPLE



IMPROPER MACHINE OPERATION



1 JOHN DEERE WORKSIGHT sends “high tire-temperature alert” to dealer from the jobsite.



2 Dealer accesses **JDLINK™** website and discovers the front left and right middle tires both have low pressure and high temperature relative to the other four tires.



3 Dealer calls the customer and makes a **REMOTE DIAGNOSTICS** connection — absence of additional diagnostic trouble codes confirms machine is healthy.



4 DEALER confirms overall machine health is fine, but two tires have low tire pressure — which causes increased tire temperature.

RESULTS: Dealer detects improper machine condition with the potential to cause premature tire wear and expensive downtime — all without a technician trip to the jobsite.

EXAMPLE

2

REMOTE SOFTWARE UPGRADE



1 Dealer receives “high engine oil soot load alert” from **JOHN DEERE WORKSIGHT**.



2 Dealer assumes excessive idling (a common cause of high soot loads) is the culprit, but the **JDLINK** website shows the machine actively working.



3 Dealer contacts the customer, establishes **REMOTE DIAGNOSTICS** connection, and views the engine misfire reading.



4 DEALER matches misfire symptom with a service bulletin that identifies the problem and requires a software update — dealer deploys an Electronic Control Unit (ECU) payload via **REMOTE PROGRAMMING** to update software and resolve the problem.

RESULTS: Dealer prevents downtime by correctly diagnosing and repairing the problem remotely.

EXAMPLE

3

RIGHT PART FOR THE JOBSITE



1 JOHN DEERE WORKSIGHT sends dealer an alert from the jobsite.



2 Dealer technician accesses **JDLINK** and finds the grader is derated.

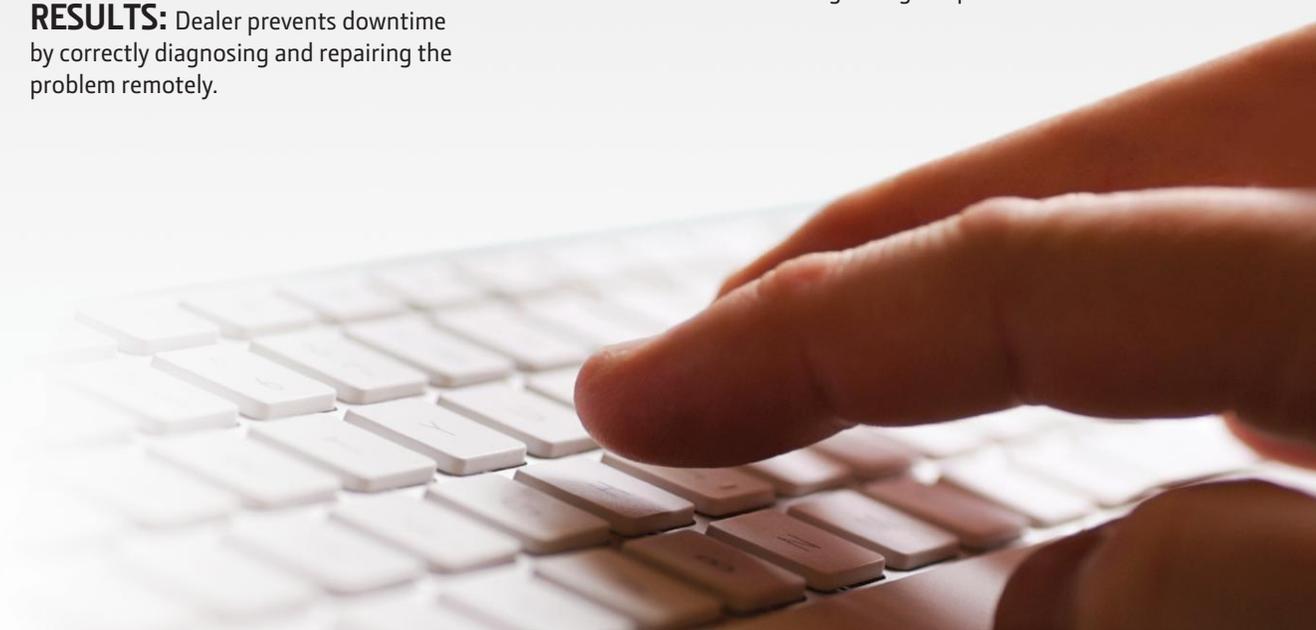


3 Dealer contacts the customer, establishes **REMOTE DIAGNOSTICS** connection, and collects an Exhaust Gas Recirculation (EGR) flow-sensor reading. The results confirm the sensor failed.



4 DEALER sends a technician to the jobsite with a new sensor in hand for onsite repair.

RESULTS: Dealer diagnoses problem remotely and sends a technician to the jobsite with the correct part for quick repair, avoiding an initial trip for diagnosing the problem.





The easiest way to capture survey-grade topographic data

The Kespry Aerial Intelligence System, sold and supported by John Deere dealers, lets you easily conduct site surveys and visualize job progress. This complete unmanned system generates high-resolution aerial images, topographic maps, 2D and 3D models, and accurate volumetric data. Survey-grade accuracy from the Kespry Drone 2s provides fast, reliable data for project estimates, civil survey designs, and construction stakeouts.



Designed to make field-data capture quick and simple, there are no joysticks needed. You create a mission with the supplied iPad using the touch of your finger. The Kespry Drone 2s calculates the flight path and flies autonomously, using LiDAR sensors to avoid obstacles. The Kespry system manages the transfer and processing of data within the platform. No piloting, SD cards, or clumsy integrations for you to manage.



Kespry Cloud is the aerial intelligence platform for the Kespry drone system. Here, flight data is securely stored and a suite of tools is used to create interactive 2D and 3D models, generate stockpile inventory reports, and export data in industry-standard file formats.

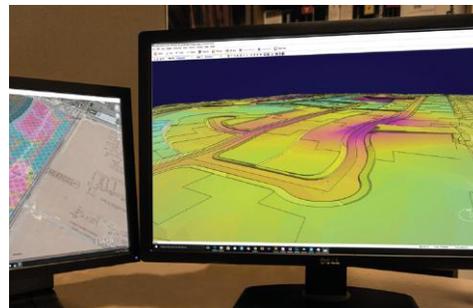




Streamline grade-control workflow with AGTEK software

GPS grade-control systems operate by referencing a detailed computer-generated 3D-grade model of the surface to be shaped by the blade. John Deere dealers can help by providing software from AGTEK — a leading provider of 3D takeoff and modeling software for civil contractors — to support your 3D modeling needs with data integration that streamlines and simplifies the GPS grade-control process.

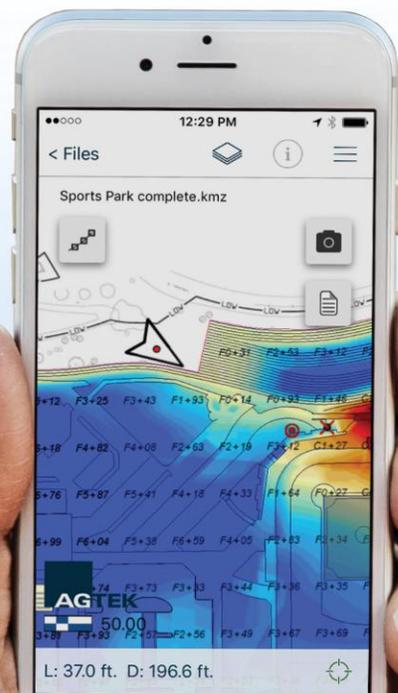
The same AGTEK takeoff routines many contractors use to efficiently process plan sheets into accurate 3D takeoffs for bid estimates can just as quickly process CAD files from awarded projects into precise 3D-grade models that work with any mix of GPS equipment, including SmartGrade™ Dozers. AGTEK's 3D views, cut-fill maps, and mobile apps provide extensive graphical support for managing the job. John Deere and AGTEK are working together to simplify the process by which grading contractors bid, model, equip, control, and manage their work. Ask your dealer for details.

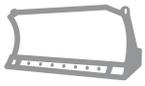


AGTEK efficiency eases the takeoff, modeling, and project management on jobs of all sizes.



AGTEK mobile apps navigate AGTEK's georeferenced maps and plans onsite.





More speed, more profits

If there were one word to describe what grade control is all about, that word would be “exact.”

Here's how it all works:

Conventional or 2D grade-control systems are best suited for flat areas or slight grades, and use sonic sensors or a laser transmitter and sensor along with machine-position sensors to display the cut and fill required to maintain grade on a monitor. With a 3D grade-control system, your job's design elevations are input into your crawler dozer's or motor grader's control box. A receiver on your machine reads the GPS signals received by an elevated antenna as well as correctional data transmitted by a jobsite-based station to

calculate an accurate cutting-edge position. The control box's computer compares the cutting-edge position to the design elevations and then displays cut-and-fill information.

A 3D system is best for complex contours. Automatic systems for both 2D and 3D even adjust the blade for the operator. Both methods allow you to achieve an exact height and an exact angle, while using an exact amount of materials and manpower to get the job done.

All of this is driven by an economy where contractor margins have become so thin that anything less than total control could eat your profit.

Now you can do the same work you've been doing for years at greater speed, in fewer passes, with more accuracy. Grade control literally guarantees that required heights are met, to eliminate the risk of overrunning estimated time and budgeted costs.



John Deere grade-control options:

1. Grade-control-ready option — When you choose this option on your crawler dozer or motor grader, your machine will come pre-plumbed, wired, and ready for easy installation of the grade-control system you choose, be it Topcon, Trimble, or Leica.

2. Topcon integrated grade control — With this option, you will receive your dozer or motor grader with an expertly installed Topcon 3D-MC² grade-control system. By working with your John Deere dealer to purchase your machine and Topcon grade-control system, you benefit from:

- Guidance on machine and system selection and setup from your John Deere dealer and Topcon distributor.
- Turnkey delivery and calibration of the machine and system.
- Faster setup and delivery since key components are installed at the John Deere factory, to ensure quality.
- The ability to finance the grade-control system along with the machine, to help with cash flow.

3. SmartGrade™ Crawler Dozers — The most integrated, convenient, and fully featured option is a SmartGrade Crawler Dozer. A Topcon 3D-MC² grade-control system is fully integrated into the machine. There are no external masts or cables, and the complete system is supported by your John Deere dealer.

4. Grade-guidance mounts for excavators — Include mounting points on link, arm, boom, upperstructure, and counterweight for grade-guidance sensors. These mounts provide convenient installation of sensors and other components for the grade-reference system of your choice.

Bottom-line benefit — exactness equals profits

It may sound complicated and expensive, but the fact is it's easy to use, and the cost doesn't compare to the return on investment. In fact, one of the most common statements grade-control providers hear from satisfied customers is, "I paid for it on the first job."

When does grade control make sense? If you grade dirt, place rock, pave with concrete or asphalt, work on roads, or build parking lots, residential developments, golf courses, or pads for commercial and industrial sites, you can benefit from grade control.

Grade-control accuracy also makes it easier to:

- Calculate more accurate estimates.
- Eliminate placing and replacing stakes.
- Eliminate the need for the operator to exit the cab to check the grade.
- Complete tasks sooner so you can move on to the next job.

Sample grade-control-benefit scenario for medium-sized job:

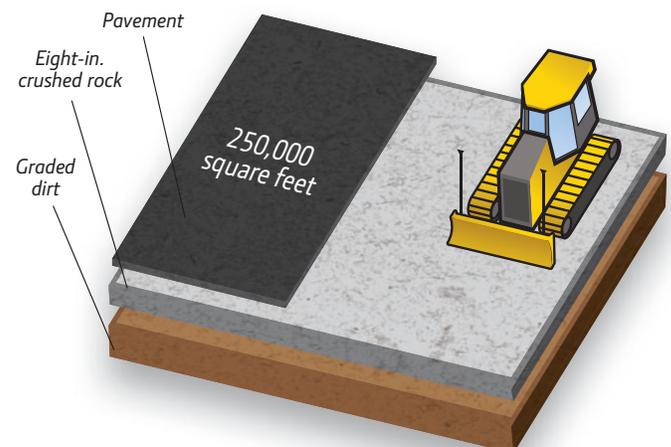
Grading job: 250,000-sq.-ft. parking lot

Requirement: Grade dirt and place eight in. of crushed-rock base prior to paving

Grading passes: Two — first the dirt, and then the stone

Time savings: Without grade control, an average grading operation will cover 20,000 sq. ft. per day. This job will take 12.5 days (250,000 divided by 20,000) of grading

Results: When grade control is utilized on a grader or crawler dozer operating as fast as five mph and grading to a tolerance of around three to four mm, 40,000 to 60,000 sq. ft. per day can be graded. That's six to eight days saved on labor and machine time (fuel, wear, and wages).





Haul more efficiently and track material movement

Onboard payload weighing for Deere articulated dump trucks (ADTs) provides overload protection, with mirror-mounted load indicators that inform the operator when the truck is nearing capacity.

Payload scales also let the operator track total tonnage and cycles. The system will even calculate carryback after the load is dumped for accurate production values.

Dump-body rollover protection that monitors chassis roll helps reduce the likelihood of a rear tip-over. When the preselected rear chassis side-to-side slope percentage is exceeded, the dump body will not raise.

Onboard weighing can also monitor fore-aft angle and decrease the dump-body angle when backing down a slope to reduce dump-cycle time. Since the truck now recognizes its load, a loaded speed limit can be selected to match the worksite.

See it all in JDLink™

Back at the office, JDLink payload-data displays help managers and jobsite supervisors monitor offsite truck use. Viewing payload data in JDLink makes it easy to analyze machine utilization and manage a project, plus identify operator trends that can affect productivity. This data can also serve as a valuable reference when bidding future projects.



Payload Information <input checked="" type="checkbox"/>	
	Measurement
Trip Counter	101.0
Total Payload	4191.5 tn
Loaded Average Fuel Rate	12.6 gal/hr
Unloaded Average Fuel Rate	8.6 gal/hr
Loaded Time	14.2 hr
Unloaded Time	14.7 hr
Loaded Idle Time	7.8 hr
Unloaded Idle Time	7.5 hr
Distance Traveled While Loaded	27.4 mi
Distance Traveled While Unloaded	29.8 mi
Average Speed Loaded	10.9 mi/h
Average Speed Unloaded	14.6 mi/h



ADT payload pod for JDLink

Mirror-mounted lights

Monitor display





Eliminate the guesswork

Payload weighing systems for wheel loaders help increase profitability and efficiency for quarry and aggregate operations. Onboard weighing creates more efficient loading and allows material movements to be tracked.

Onboard weighing systems give the loader operator information on every bucket lifted, allowing accurate measurement of every load and preventing over- or underloading. The systems also provide the ability to track multiple trucks and products to create a clear picture of product and customer movements. Working with global weighing expert LOADRITE™, select John Deere loaders now feature scale integration with JDLink™, allowing loader operators instant access to load information in real time, all through their JDLink interface.

How the LOADRITE L2180™ scale and JDLink benefit quarries:

Daily:

- Check reports at the beginning or end of a shift to check on productivity of the day.
- Confirm that daily productivity is on target.
- Compare actual throughput versus target throughput.
- Calculate tonnage per hour.
- Align truck cycle times to prevent bunching, lineups, and overtaking.
- Identify areas of improvement for new operators.

Weekly:

- Identify trends of inefficiency over time, such as reduction in average truck weight.
- Manage inventory by product type and match with customer demand.

Monthly:

- Adjust maintenance schedules on the basis of work done, not just hours run.
- Compare actual throughput versus target throughput.
- Evaluate performance to contract.
- Identify unnecessary fuel costs from inefficiencies in the load-out process, such as idling.

Before an event:

- Right-size plan ahead of capital purchases.
- Select attachments such as buckets to align with changes in bucket-fill factor.
- Set up scenarios and test improvements in performance.

Two payload-scale options are available:



LOADRITE L2180 for John Deere Advanced Payload Scale (APS)

For the ultimate payload weighing integration, the LOADRITE L2180 for John Deere is available for 444K to 944K Loaders. Featuring a separate monitor and optional printer for outputting load tickets or end-of-shift reports, the L2180 for John Deere is designed to increase loader efficiency and productivity without slowing loading.

The L2180 for John Deere offers the globally recognized accuracy and quality of LOADRITE products. With accuracy to within one percent, LOADRITE products are the scale that loader operators ask for by name.

Only the L2180 for John Deere is fully integrated with JDLink to provide information such as total bucket loads, trucks loaded, and totals by material along with your other JDLink data — all in one place.

Payload Information <input checked="" type="checkbox"/>	
	Buckets
Total Bucket Loads	168
Total Time Loading	3.3 hr
Loading Average Fuel Rate	23.1 l/h
Total Loading Fuel Consumed	75.5 l
Number of Trucks Loaded	56
Min Truck Payload Weight	24 t
Max Truck Payload Weight	27 t
Average Truck Payload Weight	26.5 t
Truck Cycle Time	3.5 min
Total Payload	1484 t

Aggregate Payload Information <input checked="" type="checkbox"/>	
Total	t
Total Weight Aggregate 1	0
Total Weight Aggregate 2	1113
Total Weight Aggregate 3	0
Total Weight Aggregate 4	42
Total Weight Aggregate 5	0
Total Weight Aggregate 6	295
Total Weight Aggregate 7	0
Total Weight Aggregate 8	34
Total Weight Aggregate 9	0
Total Weight Aggregate 10	0

Payload data in JDLink: With the L2180 for John Deere, you can view payload information by material and by machine.



Embedded Payload Scale (EPS)

The EPS provides limited functionality for operations interested in monitoring payload information but without the detail of the L2180 for John Deere. The EPS is available on John Deere 444K through 724K Loaders.

FEATURE	BENEFIT	LOADRITE L2180 FOR JOHN DEERE ADVANCED PAYLOAD SCALE (ABS)	EMBEDDED PAYLOAD SCALE (EPS)
Parts and labor warranty	Component replacement upon failure	3-year parts + 1-year labor on entire system	1 year on calibration
Printer option	Produce hard-copy load docket; generate end-of-shift reports	✓	—
Data tracking	Track individual customer truckloads	✓	—
Multiple product support	Track totals for different types of material	✓	—
Target loading mode	Ensure trucks are loaded to maximum payload	✓	—
Split weighing	Ensure trucks and trailers are loaded to correct weight while monitoring overall loads	✓	—
Multiple attachments	Calibrate scale to variety of buckets/attachments	✓	—
Recall and subtraction of last bucket load	Correct operator errors; allow addition of partial bucket loads	✓	—
Ground-slope compensation kit option	Consistent, accurate loading regardless of conditions	✓	—



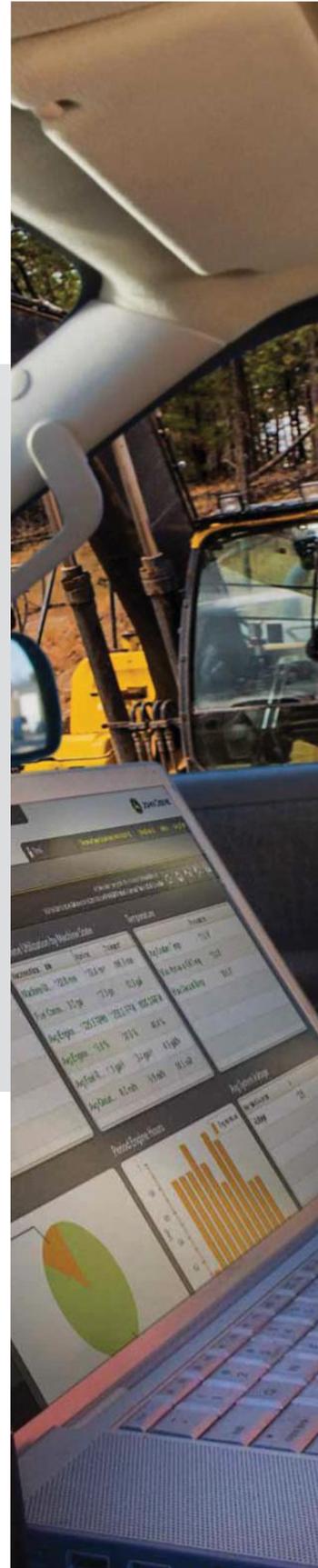
Your dealer works for you

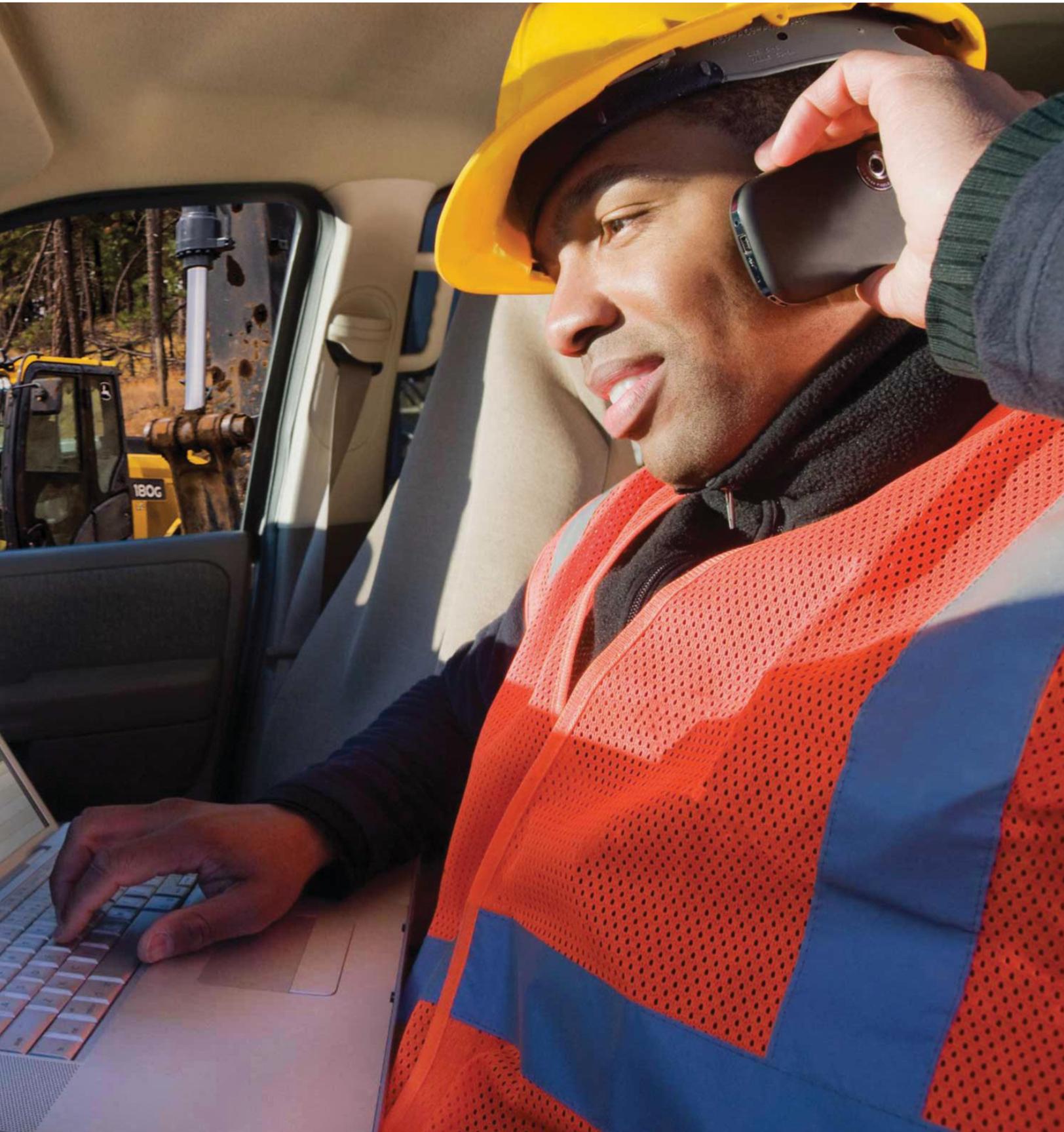
John Deere WorkSight™ technologies help optimize your machines, your uptime, and your jobsites, ultimately leading to improved profits. But don't let "technology" scare you. Because your John Deere dealer employs a technology specialist who can help you enjoy the benefits of John Deere WorkSight with as much or as little involvement as you desire.

Your dealer technology specialist can:

- Help with telematics and prognostics program enrollment and activation.
- Monitor incoming data from telematics systems and communicate those results to you in the way you want, such as documented reports, regular meetings, or as needed.
- Interpret telematics data to suggest changes to your operation, maximizing productivity and efficiency.
- Analyze machine-health alerts to recommend preventative maintenance that will head off more expensive future downtime.
- Utilize remote-diagnostic and -repair capabilities to lower costs and improve uptime.
- Share data with other dealership departments so they can better serve you.
- Quote customized preventative maintenance programs to help you manage costs.
- Counsel you on the best grade-control options and payload-weighting systems for your equipment, and enlist the help of grade-control dealers when needed.
- Provide training if you wish to monitor and act on data in-house.
- Coordinate implementation of an Application Programming Interface (API) for utilizing telematics data in your business system.

Whether you prefer to dig into the details or operate hands-off, your dealer's technology specialist can ensure that your John Deere WorkSight experience is exactly how you want it.





Machine knowledge on the go

Whether you're an operator, site foreman, or fleet manager, our mobile apps are available

for Apple iOS, iPhone®, iPad®, and Android™ devices to help you do more work for less money while maximizing operator comfort. Our "Go" apps apply to specific machines, and we're adding more all the time. Our JDLink™ app lets you easily access critical machine info virtually anytime, anyplace.

Features of our "Go" apps are:

- A walk-around checklist for daily service items.
- A guide to better understanding unique machine features.
- Tips to customize your operating experience to maximize productivity during regular operations or extreme conditions.
- Icon glossary that allows you to easily and conveniently familiarize yourself with the instrument panel.

The JDLink app lets you:

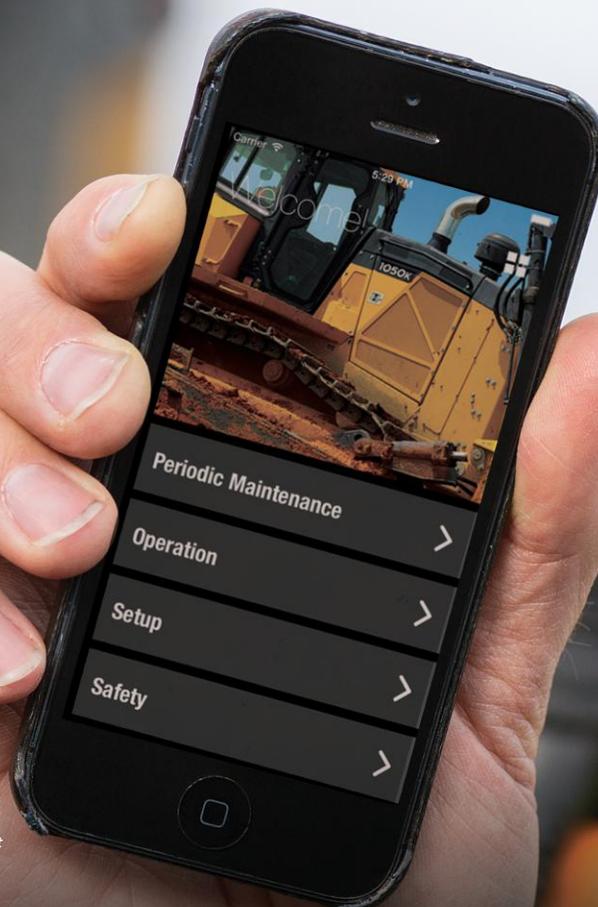
- Map multiple machines.
- Get directions to machines.
- Ping machines.
- View and acknowledge alerts.
- View engine hours.
- Filter multiple alert categories at one time.
- Search by machine PIN.

The MyMaintenance app provides:

- A list of machines enrolled in a maintenance plan through Maintenance Manager in JDLink.
- Tracking of maintenance costs for labor and parts.
- A map view of maintenance-enrolled machines and all machines in your organization.
- Barcode scanning of a machine's PIN to view its maintenance plan.
- A list of tasks associated with each service interval.
- The ability to document and time-stamp completed maintenance by user.

You can download John Deere apps by searching for "John Deere" in the iTunes® Store and Google Play.

MyJohnDeere can be accessed from any mobile device with Internet connection using one of the approved browsers as an HTML application. To ensure proper display and use, mobile users may need to enable cookies. Some BlackBerry® devices may work correctly, but are not supported.



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DKEWSIGHT Litho in U.S.A. (17-06)

JohnDeere.com/work sight

Machine knowledge on the go

Whether you're an operator, site foreman, or fleet manager, our mobile apps are available

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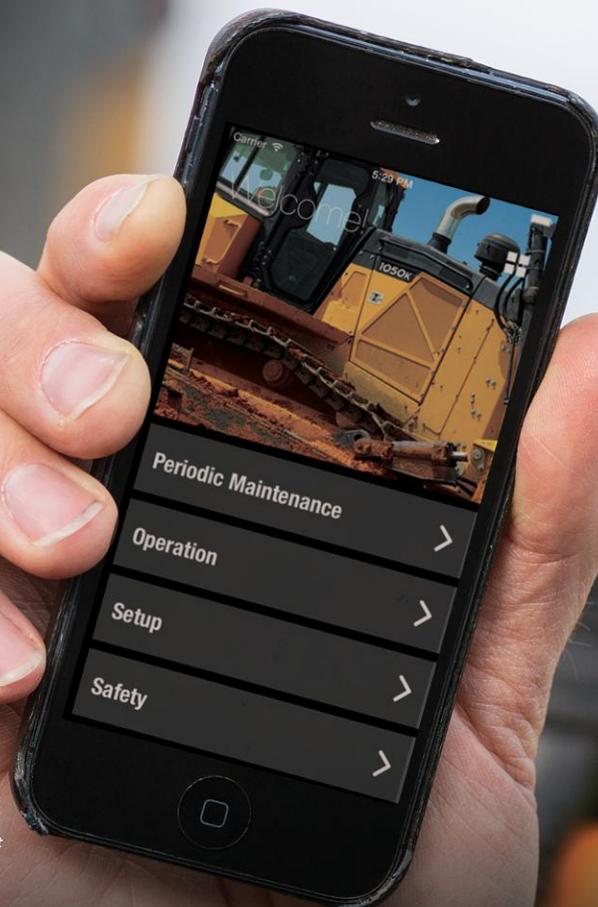
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DKEWSIGHT Litho in U.S.A. (17-06)

JohnDeere.com/work sight

Bringing machines, technology, and your dealer together to make your job easier

John Deere WorkSight™ turns data into solutions to optimize machines, uptime, and your jobsite. Benefit from improved profitability with John Deere WorkSight.



John Deere WorkSight delivers three primary benefits:

1. Machine optimization

You can apply the machine and operations data provided through John Deere WorkSight to match equipment to job requirements. And you can use other John Deere WorkSight machine data and control technologies to improve operating efficiency and effectiveness to increase productivity and reduce jobsite costs per unit of production.

2. Uptime optimization

John Deere WorkSight integrates machine data, prognostics, and diagnostics tools with dealer support and parts availability to drive machine uptime. Integrated parts and service solution packages meet the unique needs of your specific applications.

3. Jobsite optimization

Machine-control technology enables you to get earthmoving work done faster and more accurately. Integrated payload weighing technology improves the efficiency of material-handling work. You can even integrate John Deere WorkSight data into other applications to enable comprehensive jobsite-operation planning and project management.

Combined with the expertise of your dealer, John Deere WorkSight delivers answers, not just data.

Optimize *machines*

John Deere WorkSight lets you see machines that are idling excessively, inactive, running at very high loads for long periods of time, or moving when they shouldn't be.

For example:

- Identify unused machines so they can be redeployed.
- Compare fuel-burn rate across multiple machines.
- See time spent idling, to reduce unnecessary fuel consumption.
- View engine load and fuel consumption, to match machine size to the job.
- Monitor articulated dump truck (ADT) and wheel loader payload and trip counters, to ensure proper loads and maximize efficiency.
- Set up virtual fences and authorized hours of use, to improve security.
- Locate and get directions to your machines, to save significant time.

LEARN MORE about John Deere WorkSight [machine optimization technologies](#):



JDLink™ machine monitoring system
See pages 6–9.



Payload weighing
See pages 16–19.

Optimize *uptime*

John Deere WorkSight provides a number of ways to significantly boost uptime, plus save drastic amounts of time and costs associated with machine repairs. And it can serve as a helpful maintenance assistant, whether you're responsible for a large fleet spread across many locations or a single machine within sight.

For example:

- **EXCLUSIVE** remote dealer diagnostics, machine-performance recordings, and even software updates reduce the time and costs associated with a technician trip to the jobsite.
- **EXCLUSIVE** machine-health prognostics recommendations identify potential problems early so you can avoid more costly repairs down the road.
- Alerts sent to your computer, mobile device — even your dealer if you choose — inform you immediately of machine issues so you can address them quickly before they cause more costly repairs and downtime.
- Maintenance reminders based on predefined, customizable schedules go to your computer or mobile device.
- Documentation of completed maintenance helps at trade-in or resale time.
- Payload and tire pressure monitoring on wheel loaders and ADTs help reduce tire wear and replacement costs.



Ask your dealer about Ultimate Uptime

Not all operations are the same, so that's why John Deere dealers offer Ultimate Uptime. Customizable fleet-advisory services are structured to boost machine availability at a cost per hour that works for you and your team. John Deere WorkSight maintenance-management tools empower you to collaborate with your dealer to maintain and monitor machine health.

With every new John Deere machine*, you get:

- Three years of JDLINK Ultimate monitoring — five years on production-class loaders, dozers, ADTs, and excavators
- Three years of machine-health prognostics
- Remote-diagnostics and -programming capability
- World-class parts availability
- Pre-delivery set-up and followup inspections

You can work with your dealer to add many other services that meet your unique needs. For example, the Ultimate Uptime package that is best for you may include the above services plus a customized support agreement, comprehensive fluid sampling, three years of full-machine warranty, a total maintenance and repair agreement, fleet-advisory services, and more.

Be sure to ask about your dealer's Ultimate Uptime solutions featuring John Deere WorkSight.

LEARN MORE about John Deere WorkSight uptime optimization technologies:



JDLINK™ machine monitoring system
See pages 6–9.



Machine-health prognostics
See pages 10–11.



Remote diagnostics and programming
See pages 12–13.

*JDLINK Ultimate and remote diagnostics are available on most John Deere construction machines. Ask your dealer for details.

Optimize *jobsites*

With John Deere WorkSight, you can make sure you have the right machines on the right job. And you can reduce grading passes while improving the finished product. You can even watch over an operator's shoulder from many miles away to ensure the most efficient operation.

John Deere WorkSight also gives you visibility to data from completed jobs. More importantly, it helps you make your operation more efficient. Ultimately, you develop the confidence to create more competitive bids and deliver on them. More jobs won and executed on time or ahead of schedule are goals that John Deere WorkSight can help you achieve.

For example:

- Analyze time spent in gear, to identify operator-training opportunities.
- See fuel levels, to forecast efficient refueling.
- Reduce grading passes and the amount of base material required.
- Confidently adjust required margins in estimates, to be more competitive.
- Monitor ADT and wheel loader payload and trip counts.
- Quickly load trucks to order.
- View historical data on fuel consumption, passes, and payloads for reference on similar jobs.

LEARN MORE about John Deere WorkSight **jobsite optimization technologies:**



JDLink™ machine
monitoring system
See pages 6–9.



Grade control
See pages 14–15.



Payload weighing
See pages 16–19.



Manage multiple machines from one place

JDLink is your connection to the profitability-enhancing benefits of John Deere WorkSight. From the fleet-management fundamentals of knowing the hours and location of all brands, to sending machine-health alerts and tracking machine production on Deere machines, JDLink can help you centrally, smartly manage your entire fleet and grow your business.

A family of telematics devices that suit the wide-ranging needs of your multi-brand fleet:

SERVICE	JDLINK LOCATE
Hardware	Asset-Tracking Terminal
Power required	No
Equipment brands	All makes
Equipment type	Stationary and mobile equipment such as toolsheds, booms, cranes, generators, light poles, compressors, scissors, welding machines, forklifts, skid steer loaders, and trenchers
Benefit	A value-priced, self-contained solution for equipment location and enhanced security — no electrical connection required
Features	<ul style="list-style-type: none"> – Geofence – Machine grouping – Alert escalation logic – Dealer data services/third-party access

Maps: Current location, location history, and driving directions

Alerts: Diagnostic trouble codes and maintenance, security, or customizable alerts

Engine hours: Daily, weekly, and cumulative hours for maintenance planning

Maintenance: Enroll in a factory-recommended maintenance plan, and automatically track upcoming intervals due for all your enrolled machines in one place





Satellite communication



Cellular

Dual-mode option

If you work in extremely remote locations with spotty cell coverage, opt for the JDLink satellite module. JDLink will transmit via cellular coverage unless a connection can't be established — then JDLink switches to satellite mode to transmit information.

A machine communicating via satellite will report hours, location, alerts, and many other Ultimate data sets. Call-in frequency for a machine communicating in satellite mode is once per day. Red alerts and geofence violations are sent immediately at any time, just like when in cellular coverage. Available for JDLink Ultimate only.

JDLINK EXPRESS		JDLINK ULTIMATE
Fleet Management, OBD Terminal	Fleet Management, MC-3 Terminal	MTC/Satellite
Yes	Yes	Yes
All makes	All makes	John Deere
Stationary and mobile equipment with an On-board Diagnostics (OBD) port such as light-duty trucks and semis	Stationary and mobile equipment such as skid steer loaders, heavy-duty trucks, concrete mixers, tank trucks, tow trucks, sweepers, and rental equipment	John Deere construction equipment working in remote and/or high-production applications — comes standard on most new John Deere construction machines with three years of service
A value-priced solution for location, security, and maintenance tracking requiring only a simple OBD connection	A value-priced, rugged solution for location, security, and maintenance tracking requiring only a three-wire connection	An ultra-rugged solution for harsh conditions; provides satellite compatibility; CAN bus data access provides the most complete machine and operator information; data can be integrated into customer's business process
<ul style="list-style-type: none"> – Geofence – Curfew – Machine grouping – On-demand updates – Distance traveled – Engine hours – Maintenance tracking – Alert escalation logic – Dealer data services/third-party access – JDLink mobile app for Apple iOS or Android 	<ul style="list-style-type: none"> – Geofence – Curfew – Machine grouping – On-demand updates – Distance traveled – Engine hours – Maintenance tracking – Alert escalation logic – Dealer data services/third-party access – JDLink mobile app for Apple iOS or Android 	<ul style="list-style-type: none"> – Geofence – Curfew – Machine grouping – On-demand updates – Machine hours – Maintenance tracking – Equipment utilization and engine load levels – Fuel consumption – Operator-productivity indicators – Payload and trip counter for ADTs – Tire pressure monitoring – Diagnostic trouble code alerts – Alerts sent to cell phone or email with escalation options – Remote-diagnostics and -programming capability – Dual-mode satellite option – JDLink mobile app for Apple iOS or Android – Dealer data services/third-party access



JDLink can be set up to send alerts via email or Short Message Service (SMS) text so you're always in the know. Alert escalation levels can be set to be sent to multiple contacts if acknowledgement is not received within a predetermined time period. There are also JDLink apps for Apple iOS, iPhone and iPad, and Android devices that provide machine location information, engine hours, the ability to view and acknowledge alerts, and JDLink Ultimate data such as fuel consumption and level, average ground speed, and engine utilization.

Visit JohnDeere.com/jdlink for an up-to-date listing by machine type of all data viewable through JDLink Ultimate.



Rugged and dependable hardware

HARDWARE	DESCRIPTION	SPECIFICATIONS	
 <p data-bbox="191 753 492 781"><i>Modular Telematics Gateway (MTG)</i></p>	<p data-bbox="561 506 849 701">JDLink Ultimate hardware — known as the Modular Telematics Gateway (MTG) — is built tough to withstand harsh construction equipment use. It is included in base on most new John Deere construction models, and is also available as a field kit.</p>	<p data-bbox="938 506 1484 779">Connectors: All rated at IP67 or better Input voltage: 9-32VDC (switched and unswitched power) Current draw (maximum): On, .03A; Sleep/Ears-On, 0.025A; Hibernate, 0.001A Operating temperature: -40 deg. C to +75 deg. C Operating shock: 3-axis, 25G to 85G in 10G steps, 1,000 shocks per step (must pass) ESD: ISO 1065, 2001 Storage temperature: -40 deg. C to +85 deg. C Bench handling: EAP-004, 90-percent probability of dropping one meter onto concrete</p>	
 <p data-bbox="164 1142 261 1213"><i>MC-3 Fleet-Monitoring Terminal</i></p> <p data-bbox="399 995 505 1066"><i>OBD-II Fleet-Monitoring Terminal</i></p>	<p data-bbox="561 827 878 1150">There are two Fleet-Monitoring Terminal field kits available for JDLink Express. One is for light-duty trucks and semis, and requires an OBD-II port for installation. The other is for equipment such as skid steer loaders, compact excavators, heavy-duty trucks, concrete mixers, tank trucks, tow trucks, sweepers, and other equipment with a battery. It features a simple three-wire connection. Both terminal types install inside the machine.</p>	<p data-bbox="938 827 1203 869">OBD-II FLEET-MONITORING TERMINAL</p> <p data-bbox="938 877 1187 926">Dimensions: 43 x 64 x 25 mm (1.7 x 2.5 x 1 in.)</p> <p data-bbox="938 932 1122 953">Weight: 51 g (1.8 oz.)</p> <p data-bbox="938 959 1170 980">Input voltage: 7 to 20 volts</p> <p data-bbox="938 987 1203 1100">Power consumption: <3 mA @ 12 volts (deep sleep); <11 mA @ 12 volts (sleep on network); <140 mA @ 12 volts (active standby)</p> <p data-bbox="938 1106 1166 1148">Operating temperature: -30 deg. C to +75 deg. C</p> <p data-bbox="938 1155 1166 1203">Storage temperature: -40 deg. C to +85 deg. C</p> <p data-bbox="938 1209 1203 1230">Shock and vibration: SAE J1455</p>	<p data-bbox="1237 827 1502 869">MC-3 FLEET-MONITORING TERMINAL</p> <p data-bbox="1237 877 1502 926">Dimensions: 150 x 75 x 25 mm (6 x 3 x 1 in.)</p> <p data-bbox="1237 932 1437 953">Weight: 273 g (9.6 oz.)</p> <p data-bbox="1237 959 1502 1100">Input voltage: 12- and 24-volt systems Power consumption: 10 mA @ 12 volts (sleep); 65 mA @ 12 volts (active); 300 mA @ 12 volts (transmitting)</p> <p data-bbox="1237 1106 1474 1148">Operating temperature: -40 deg. C to +85 deg. C</p> <p data-bbox="1237 1155 1474 1203">Storage temperature: -40 deg. C to +85 deg. C</p> <p data-bbox="1237 1209 1502 1230">Shock and vibration: SAE J1455</p>
 <p data-bbox="293 1457 500 1478"><i>Asset-Tracking Terminal</i></p>	<p data-bbox="561 1274 878 1598">For JDLink Locate, the JDLink Asset-Tracking Terminal field kit utilizes an internal battery, so it can be used to provide location information and set up geofences for just about anything — toolsheds, generators, light poles, compressors, scissors, welding machines, forklifts, trenchers, and more. It can be attached with bolts, screws, or adhesive, and just needs clear access to the sky. Enables you to track and secure all your equipment with one application.</p>	<p data-bbox="938 1274 1386 1316">Dimensions: 55 x 55 x 260 mm (2.25 x 2.25 x 10.5 in.)</p> <p data-bbox="938 1323 1122 1344">Weight: 907 g (32 oz.)</p> <p data-bbox="938 1350 1437 1398">Power: 3.6-volt 57-Ah replaceable lithium internal battery</p> <p data-bbox="938 1404 1437 1453">Power consumption: <1 mA (deep sleep); <10 mA (sleep on network); <70 mA (active standby)</p> <p data-bbox="938 1459 1365 1480">Estimated battery life for two call-ins/day: 5 years</p> <p data-bbox="938 1486 1349 1507">Operating temperature: -30 deg. C to +75 deg. C</p> <p data-bbox="938 1514 1328 1535">Storage temperature: -40 deg. C to +85 deg. C</p> <p data-bbox="938 1541 1437 1589">Shock and vibration: U.S. military standards 202G and 810F; SAE J1455</p>	

For optimal performance of the JDLink site, John Deere recommends the latest versions of these browsers: Microsoft Internet Explorer®, Google Chrome®, Mozilla Firefox®, or Apple Safari®.

Ask about fleet-based pricing

When it's time to renew your JDLink subscriptions, we offer significantly discounted pricing based on the number of subscriptions required for your fleet. Ask your dealer for details.

Data connection services for business system integration

How many hours did machines spend on that job? How many more hours left before maintenance is required? You may prefer to answer questions such as these using locally run Enterprise Resource Planning (ERP) or the fleet-management software already deployed in your business.

Association of Equipment Management Professionals (AEMP) API

An industry standard supported by John Deere and other telematics providers, the AEMP API provides basic data including:

- Equipment: make, model, equipment ID, and serial number
- Location and elevation
- Machine hours (cumulative)
- Fuel consumption (last 24 hours)

John Deere offers an Application Programming Interface (API) toolkit that enables you to integrate a set of JDLink data into your business system. Encourage your IT manager to visit <http://developer.deere.com> and ask your dealer to connect you with Deere experts to get started.





Advanced healthcare for your machines

John Deere WorkSight machine-health prognostics provide alerts and recommendations to increase machine availability and significantly lower operating expenses.

John Deere WorkSight’s machine-health prognostics evaluate machine data and “think through” maintenance protocols before prescribing downtime cures that will keep your fleet — and your bottom line — healthy.

How do we do it?

Advanced proprietary rules logic analyzes your machines’ fluids to search for irregularities and their causes and solutions. We also combine JDLink™ and machine-inspection data. All three data points are examined together, and the exclusive condition-based rules-engine logic points to the problem, measures how critical it is, and provides solutions to resolve it before downtime occurs.

A virtual fleet manager

When you utilize this John Deere WorkSight benefit, your dealer will receive machine-health alerts. So even if you don’t have JDLink set to send you alerts and don’t access its data often, your dealer will know immediately when something needs attention. You can focus on your work and not the health of your fleet.

The exclusive machine-health prognostics provide:

- ▶ FLUID ANALYSIS
- ▶ CONDITIONAL MACHINE INSPECTION
- ▶ JDLINK DATA



■ A typical lab report:

Although the report is robust and the out-of-spec fluids are identified, a typical lab report is light on corrective measures:

“High level of water detected. Coolant additives present, possible elevated coolant contamination. Recommend inspect coolant system for source of coolant contamination. Elevated silicon. Wear metals indicate possible bearing and/or bushing wear. Change oil and filter.”

rocess:

The condition-based rules engine's exclusive logic examines the three together, points to the problem, and measures how critical it is. A machine-health solution is generated.

The system delivers solutions to the dealer or customer via email or work order, and provides solutions to resolve the issue before it causes downtime.

▪ *Three examples of critical recommendations sent to your dealer for action:*

Example 1: ACTION REQUIRED — DIRT IN OIL

Check for root cause and run filter caddy on system.

Resample fluid to validate normal cleanliness. If normal cleanliness cannot be achieved using filter caddy, drain and flush system.

Aluminum is critical and silicon is abnormal. Aluminum/silicon ratio is greater than 1:4. Values suggest higher likelihood of component wear combined with ingested dirt. Iron and/or copper recommendations also confirm wear caused by dirt.

Example 2: ACTION REQUIRED — WATER IN HYDRAULIC FLUID

Water value is critical. Check for source of water ingestion and identify root cause.

If fluid is not milky, you can attempt to salvage the useful life of the fluid. Run filter caddy on fluid when it is cool for best results. If filter caddy is not able to lower water saturation below 80 percent, suggest to replace fluid and filter, and flush machine. Resample to validate normal water value. Be sure filter caddy has water-removal filter installed before using on system.

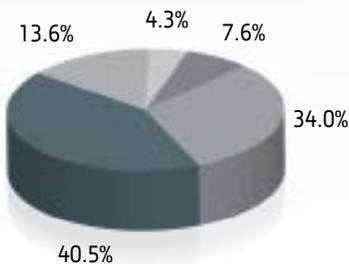
Example 3

This machine has generated an engine overheating diagnostic trouble code, and it has happened on more than one occasion. No fluid analysis data is available to assess whether overheating has affected the engine. Continued machine operation with overheated engine can be detrimental to engine life and can lead to piston and/or line failure.

Suggest to investigate root cause of engine overheating, take engine oil sample, and make complete assessment of machine health. See remote diagnostics system for complete diagnostic solution.

▪ *An example of machine components and operating practices:*

Machine utilization



Machine-load state

- 7.6% Key-on (45.6 hours)
- 34.0% Idle (185.4 hours)
- 40.5% Low load (253.6 hours)
- 13.6% Medium load (87.1 hours)
- 4.3% High load (26.1 hours)

Total = 597.8 hours

In this example, JDLink tells us the machine is idling over 34 percent of the time. Fluid analysis on this machine also says there is high-soot content. Experience tells us that idle time is directly related to soot load in diesel engines — especially in higher-tier engines. The advanced rules engine interprets this relationship and provides instant solutions.



Faster, less costly repairs

What if your dealer could warn you of problems with your machine and initiate solutions without visiting the jobsite and charging you for a technician's travel time?

That's what you get with John Deere WorkSight's exclusive remote diagnostics and programming. Your Deere dealer can help you reduce downtime by accessing and resetting diagnostic trouble codes and recording performance readings remotely.

Remote performance recordings

If your machine malfunctions at 1,000 rpm, for example, your Deere dealer can use remote diagnostics to record particular machine parameters at that rpm. The technician doesn't need to be onsite. And readings can be taken at full machine functionality, eliminating downtime.

If parts are needed to fix the problem assessed via remote diagnostics, the technician arrives onsite with the right parts without an initial trip to the field.

Remote software updates

Using remote programming, your machine can also receive wireless software updates, forestalling a technician having to come to the jobsite with laptop in hand.

Your fleet management and maintenance team gain twice the bench strength when your dealer and your machines are connected through remote diagnostics and programming. The advantages to owning John Deere just got a lot more compelling.

Three real-world examples of how John Deere WorkSight significantly optimizes uptime:

EXAMPLE



IMPROPER MACHINE OPERATION



1 JOHN DEERE WORKSIGHT sends "high tire-temperature alert" to dealer from the jobsite.



2 Dealer accesses JDLINK™ website and discovers the front left and right middle tires both have low pressure and high temperature relative to the other four tires.



3 Dealer calls the customer and makes a REMOTE DIAGNOSTICS connection — absence of additional diagnostic trouble codes confirms machine is healthy.



4 DEALER confirms overall machine health is fine, but two tires have low tire pressure — which causes increased tire temperature.

RESULTS: Dealer detects improper machine condition with the potential to cause premature tire wear and expensive downtime — all without a technician trip to the jobsite.

EXAMPLE

2



REMOTE SOFTWARE UPGRADE

- 1 Dealer receives “high engine oil soot load alert” from **JOHN DEERE WORKSIGHT**.
- 2 Dealer assumes excessive idling (a common cause of high soot loads) is the culprit, but the **JDLINK** website shows the machine actively working.
- 3 Dealer contacts the customer, establishes **REMOTE DIAGNOSTICS** connection, and views the engine misfire reading.
- 4 **DEALER** matches misfire symptom with a service bulletin that identifies the problem and requires a software update — dealer deploys an Electronic Control Unit (ECU) payload via **REMOTE PROGRAMMING** to update software and resolve the problem.

RESULTS: Dealer prevents downtime by correctly diagnosing and repairing the problem remotely.

EXAMPLE

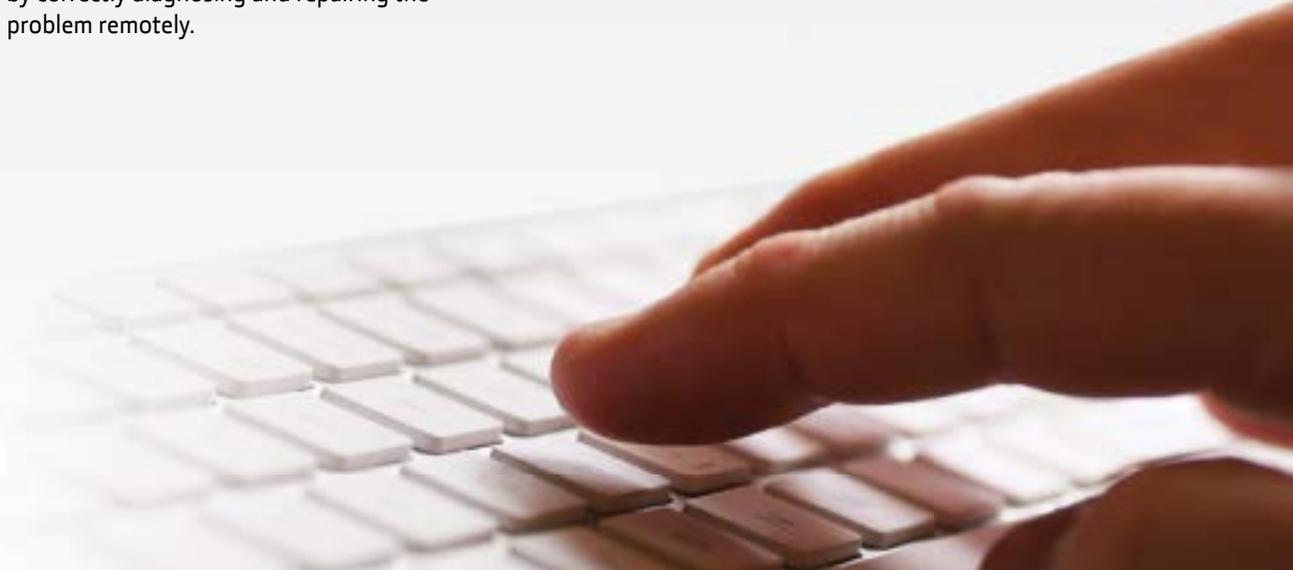
3

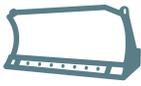


RIGHT PART FOR THE JOBSITE

- 1 **JOHN DEERE WORKSIGHT** sends dealer an alert from the jobsite.
- 2 Dealer technician accesses **JDLINK** website and finds the grader is derated.
- 3 Dealer contacts the customer, establishes **REMOTE DIAGNOSTICS** connection, and collects an Exhaust Gas Recirculation (EGR) flow-sensor reading. The results confirm the sensor failed.
- 4 **DEALER** sends a technician to the jobsite with a new sensor in hand for onsite repair.

RESULTS: Dealer diagnoses problem remotely and sends a technician to the jobsite with the correct part for quick repair, avoiding an initial trip for diagnosing the problem.





More speed, more profits

If there were one word to describe what grade control is all about, that word would be “exact.”

Here's how it all works:

Conventional or 2D grade-control systems are best suited for flat areas or slight grades, and use sonic sensors or a laser transmitter and sensor along with machine-position sensors to display the cut and fill required to maintain grade on a monitor. With a 3D grade-control system, your job's design elevations are input into your crawler dozer's or motor grader's control box. A receiver on your machine reads the GPS signals received by an elevated antenna as well as correctional data transmitted by a jobsite-based station to

calculate an accurate cutting-edge position. The control box's computer compares the cutting-edge position to the design elevations and then displays cut-and-fill information.

A 3D system is best for complex contours. Automatic systems for both 2D and 3D even adjust the blade for the operator. Both methods allow you to achieve an exact height and an exact angle, while using an exact amount of materials and manpower to get the job done.

All of this is driven by an economy where contractor margins have become so thin that anything less than total control could eat your profit.

Now you can do the same work you've been doing for years at greater speed, in fewer passes, with more accuracy. Grade control literally guarantees that required heights are met, to eliminate the risk of overrunning estimated time and budgeted costs.



John Deere grade-control options:

- 1. Grade-control-ready option** — When you choose this option on your crawler dozer or motor grader, your machine will come pre-plumbed, wired, and ready for easy installation of the grade-control system you choose, be it Topcon, Trimble, or Leica.
- 2. Topcon integrated grade control** — With this option, you will receive your dozer or motor grader with an expertly installed Topcon 3D-MC² grade-control system. By working with your John Deere dealer to purchase your machine and Topcon grade-control system, you benefit from:
 - Guidance on machine and system selection and setup from your John Deere dealer and Topcon distributor
 - Turnkey delivery and calibration of the machine and system
 - Faster setup and delivery since key components are installed at the John Deere factory, to ensure quality
 - The ability to finance the grade-control system along with the machine, to help with cash flow

Bottom-line benefit — exactness equals profits

It may sound complicated and expensive, but the fact is it's easy to use, and the cost doesn't compare to the return on investment. In fact, one of the most common statements grade-control providers hear from satisfied customers is, "I paid for it on the first job."

When does grade control make sense? If you grade dirt, place rock, pave with concrete or asphalt, work on roads, or build parking lots, residential developments, golf courses, or pads for commercial and industrial sites, you can benefit from grade control.

Grade-control accuracy also makes it easier to:

- Calculate more accurate estimates.
- Eliminate placing and replacing stakes.
- Eliminate the need for the operator to exit the cab to check the grade.
- Complete tasks sooner so you can move on to the next job.

Sample grade-control-benefit scenario for medium-sized job:

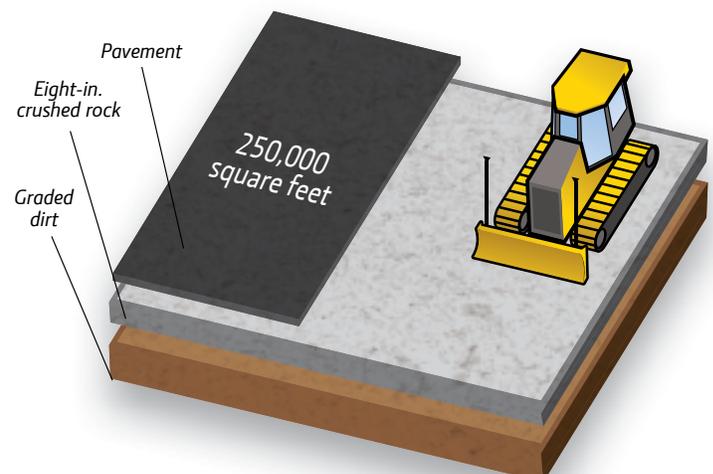
Grading job: 250,000-sq.-ft. parking lot

Requirement: Grade dirt and place eight in. of crushed-rock base prior to paving

Grading passes: Two — first the dirt, and then the stone

Time savings: Without grade control, an average grading operation will cover 20,000 sq. ft. per day. This job will take 12.5 days (250,000 divided by 20,000) of grading

Results: When grade control is utilized on a grader, crawler dozer, or John Deere 764 HSD operating as fast as five mph and grading to a tolerance of around three to four mm, 40,000 to 60,000 sq. ft. per day can be graded. That's six to eight days saved on labor and machine time (fuel, wear, and wages).





Haul more efficiently and track material movement

Onboard payload weighing for Deere articulated dump trucks (ADTs) provides overload protection, with mirror-mounted load indicators that inform the operator when the truck is nearing capacity.

Payload scales also let the operator track total tonnage and cycles. The system will even calculate carryback after the load is dumped for accurate production values.

Dump-body rollover protection that monitors chassis roll helps reduce the likelihood of a rear tip-over. When the preselected rear chassis side-to-side slope percentage is exceeded, the dump body will not raise.

Onboard weighing can also monitor fore-aft angle and decrease the dump-body angle when backing down a slope to reduce dump-cycle time. Since the truck now recognizes its load, a loaded speed limit can be selected to match the worksite.

See it all in JDLink™ Ultimate

Back at the office, JDLink payload-data displays help managers and jobsite supervisors monitor offsite truck use. Viewing payload data in JDLink makes it easy to analyze machine utilization and manage a project, plus identify operator trends that can affect productivity. This data can also serve as a valuable reference when bidding future projects.



Payload Information <input checked="" type="checkbox"/>	
	Measurement
Trip Counter	101.0
Total Payload	4191.5 tn
Loaded Average Fuel Rate	12.6 gal/hr
Unloaded Average Fuel Rate	8.6 gal/hr
Loaded Time	14.2 hr
Unloaded Time	14.7 hr
Loaded Idle Time	7.8 hr
Unloaded Idle Time	7.5 hr
Distance Traveled While Loaded	27.4 mi
Distance Traveled While Unloaded	29.8 mi
Average Speed Loaded	10.9 mi/h
Average Speed Unloaded	14.6 mi/h



ADT payload pod for JDLink

Mirror-mounted lights

Monitor display





Eliminate the guesswork

Payload weighing systems for wheel loaders help increase profitability and efficiency for quarry and aggregate operations. Onboard weighing creates more efficient loading and allows material movements to be tracked.

Onboard weighing systems give the loader operator information on every bucket lifted, allowing accurate measurement of every load and preventing over- or underloading. The systems also provide the ability to track multiple trucks and products to create a clear picture of product and customer movements. Working with global weighing expert LOADRITE™, select John Deere loaders now feature scale integration with JDLink™ Ultimate, allowing loader operators instant access to load information in real time, all through their JDLink Ultimate interface.



How the LOADRITE L2180™ scale and JDLink benefit quarries:

Daily:

- Check reports at the beginning or end of a shift to check on productivity of the day.
- Confirm that daily productivity is on target.
- Compare actual throughput versus target throughput.
- Calculate tonnage per hour.
- Align truck cycle times to prevent bunching, lineups, and overtaking.
- Identify areas of improvement for new operators.

Weekly:

- Identify trends of inefficiency over time, such as reduction in average truck weight.
- Manage inventory by product type and match with customer demand.

Monthly:

- Adjust maintenance schedules on the basis of work done, not just hours run.
- Compare actual throughput versus target throughput.
- Evaluate performance to contract.
- Identify unnecessary fuel costs from inefficiencies in the load-out process, such as idling.

Before an event:

- Right-size plan ahead of capital purchases.
- Select attachments such as buckets to align with changes in bucket-fill factor.
- Set up scenarios and test improvements in performance.

Two payload-scale options are available:



LOADRITE L2180 for John Deere Advanced Payload Scale (APS)

For the ultimate payload weighing integration, the LOADRITE L2180 for John Deere is available for 444K to 844K-II Loaders. Featuring a separate monitor and optional printer for outputting load tickets or end-of-shift reports, the L2180 for John Deere is designed to increase loader efficiency and productivity without slowing loading.

The L2180 for John Deere offers the globally recognized accuracy and quality of LOADRITE products. With accuracy to within one percent, LOADRITE products are the scale that loader operators ask for by name.

Only the L2180 for John Deere is fully integrated with JDLink to provide information such as total bucket loads, trucks loaded, and totals by material along with your other JDLink data — all in one place.

Payload Information <input checked="" type="checkbox"/>	
	Buckets
Total Bucket Loads	168
Total Time Loading	3.3 hr
Loading Average Fuel Rate	23.1 l/h
Total Loading Fuel Consumed	75.5 l
Number of Trucks Loaded	56
Min Truck Payload Weight	24 t
Max Truck Payload Weight	27 t
Average Truck Payload Weight	26.5 t
Truck Cycle Time	3.5 min
Total Payload	1484 t

Aggregate Payload Information <input checked="" type="checkbox"/>	
Total	t
Total Weight Aggregate 1	0
Total Weight Aggregate 2	1113
Total Weight Aggregate 3	0
Total Weight Aggregate 4	42
Total Weight Aggregate 5	0
Total Weight Aggregate 6	295
Total Weight Aggregate 7	0
Total Weight Aggregate 8	34
Total Weight Aggregate 9	0
Total Weight Aggregate 10	0

Payload data in JDLink. With the L2180 for John Deere, you can view payload information by material and by machine.



Embedded Payload Scale (EPS)

The EPS provides limited functionality for operations interested in monitoring payload information but without the detail of the L2180 for John Deere. The EPS is available on John Deere 444K through 724K Loaders.

FEATURE	BENEFIT	LOADRITE L2180 FOR JOHN DEERE ADVANCED PAYLOAD SCALE (ABS)	EMBEDDED PAYLOAD SCALE (EPS)
Parts and labor warranty	Component replacement upon failure	3-year parts + 1-year labor on entire system	1 year on calibration
Printer option	Produce hard-copy load dockets; generate end-of-shift reports	✓	
Data tracking	Track individual customer truckloads	✓	
Multiple product support	Track totals for different types of material	✓	
Target loading mode	Ensure trucks are loaded to maximum payload	✓	
Split weighing	Ensure trucks and trailers are loaded to correct weight while monitoring overall loads	✓	
Multiple attachments	Calibrate scale to variety of buckets/attachments	✓	
Recall and subtraction of last bucket load	Correct operator errors; allow addition of partial bucket loads	✓	
Ground-slope compensation kit option	Consistent, accurate loading regardless of conditions	✓	

Your dealer works for you

John Deere WorkSight™ technologies help optimize your machines, your uptime, and your jobsites, ultimately leading to improved profits. But don't let "technology" scare you. Because your John Deere dealer employs a technology specialist who can help you enjoy the benefits of John Deere WorkSight with as much or as little involvement as you desire.

Whether you prefer to dig into the details or operate hands-off, your dealer's technology specialist can ensure that your John Deere WorkSight experience is exactly how you want it.

Your dealer technology specialist can:

- Help with telematics and prognostics program enrollment and activation.
- Monitor incoming data from telematics systems and communicate those results to you in the way you want, such as documented reports, regular meetings, or as needed.
- Interpret telematics data to suggest changes to your operation, maximizing productivity and efficiency.
- Analyze prognostics to recommend preventative maintenance that will head off more expensive future downtime.
- Utilize remote-diagnostic and -repair capabilities to lower costs and improve uptime.
- Share data with other dealership departments so they can better serve you.
- Quote customized preventative maintenance programs to help you manage costs.
- Counsel you on the best grade-control options and payload-weighting systems for your equipment, and enlist the help of grade-control dealers.
- Provide training if you wish to monitor and act on data in-house.
- Coordinate implementation of an Application Programming Interface (API) for utilizing telematics data in your business system.

