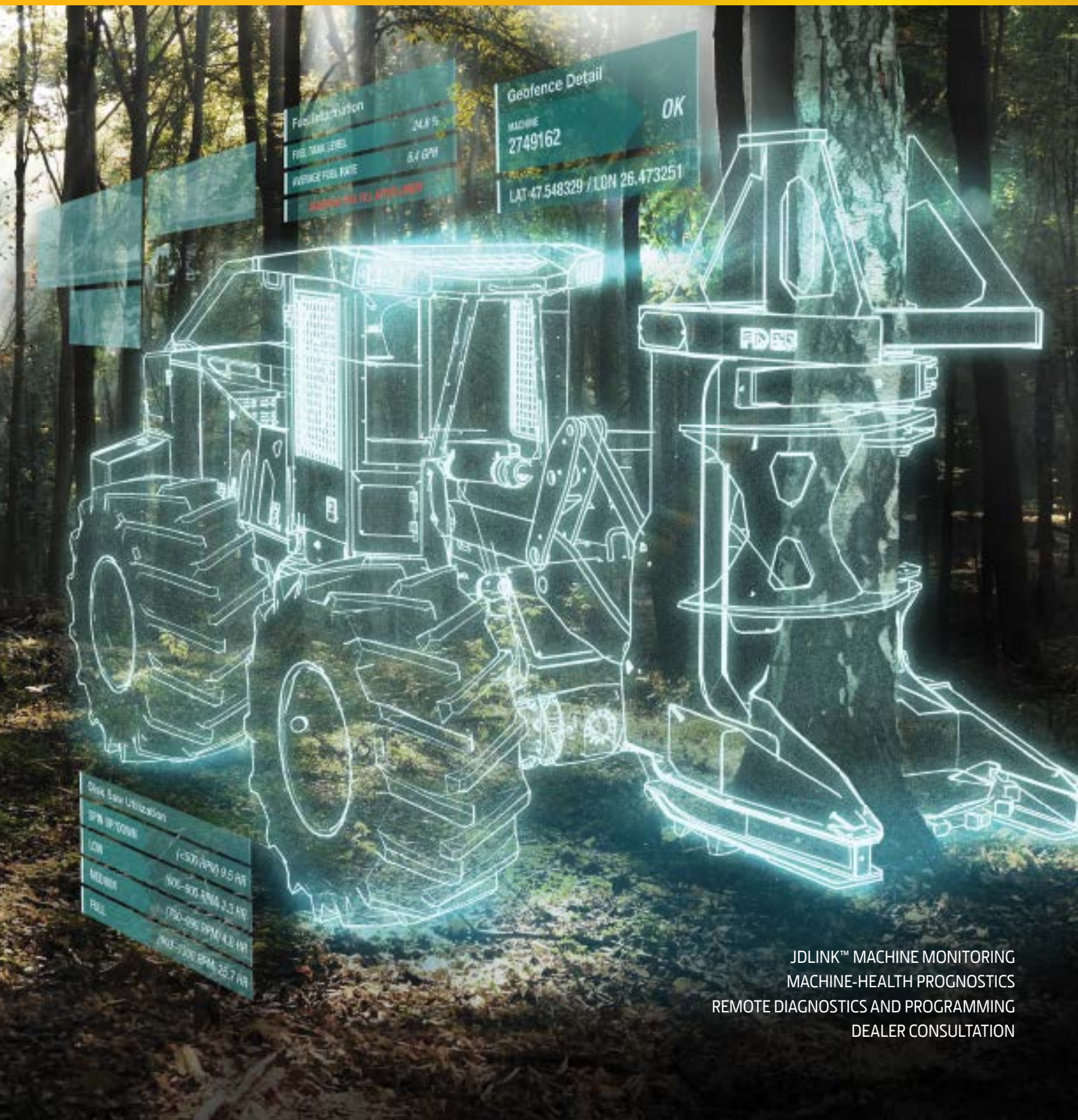
John Deere ForestSight™

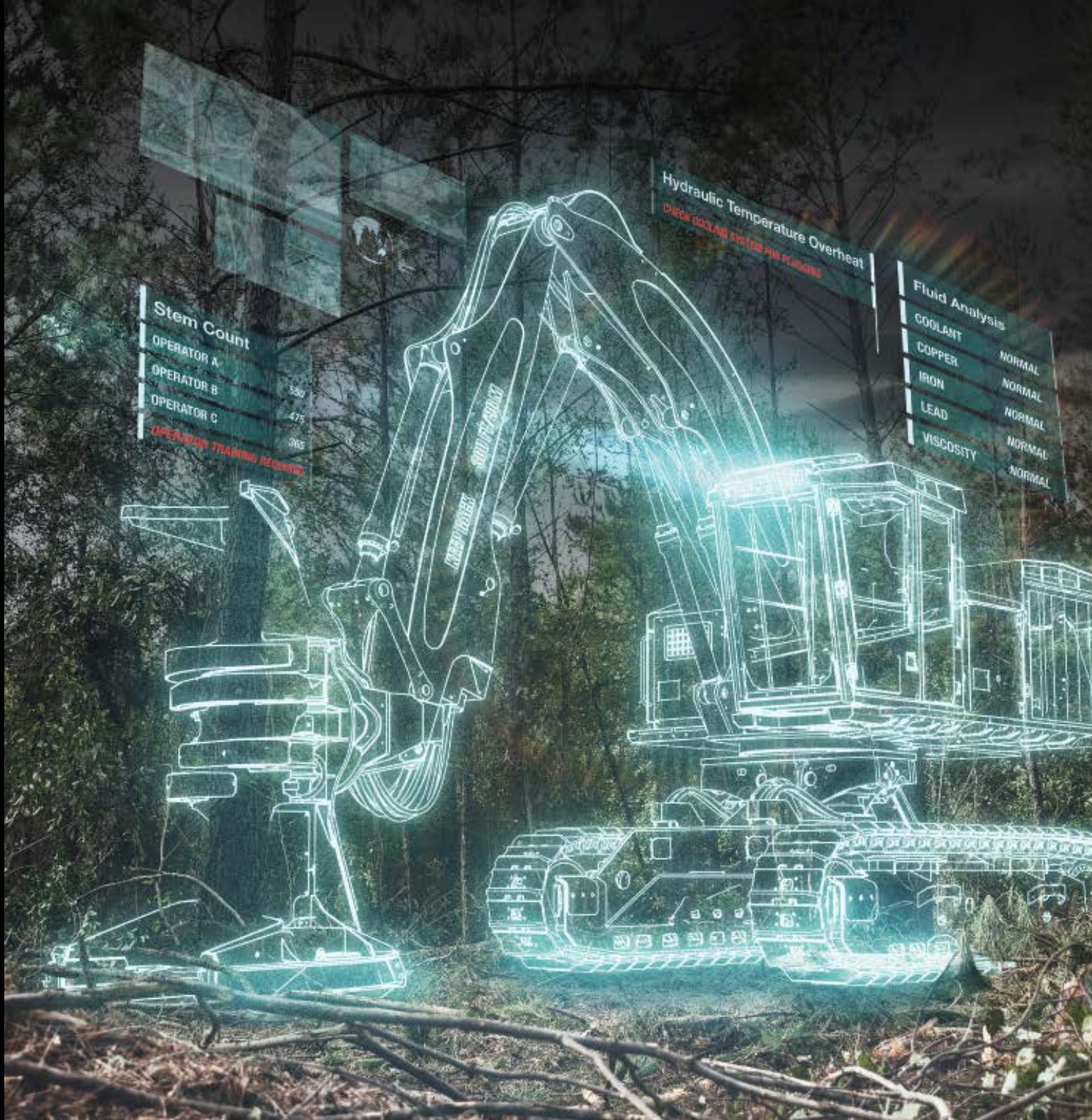
JOHN DEERE



JDLINK™ MACHINE MONITORING
MACHINE-HEALTH PROGNOSTICS
REMOTE DIAGNOSTICS AND PROGRAMMING
DEALER CONSULTATION

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

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



John Deere ForestSight delivers three primary benefits:

1. Machine optimization

Apply the machine and operations data provided through John Deere ForestSight to increase productivity and efficiency.

2. Uptime optimization

John Deere ForestSight 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

From nearly any location, you can see when and where your machines are working, how many cycles they are completing, and how much time operators spend out of the cab. This up-to-the-minute data lets you manage your production more efficiently.

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

Optimize *machines*

Today more than ever before, you need to get the most logs to the landing for each gallon or liter of fuel you burn. John Deere ForestSight gives you visibility to the efficiency of your machines. Your John Deere dealer can even analyze the data for you and make recommendations for improvements.

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.
– 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 ForestSight **machine optimization technologies:**

JDLink™ machine monitoring system
See pages 6–8.

Optimize *uptime*

We know that when you're not up and running in the woods, you're not making money. John Deere ForestSight 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. John Deere ForestSight and your dealer can also monitor engine emission components to ensure proper operation.

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.

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 ForestSight maintenance-management tools empower you to collaborate with your dealer to maintain and monitor machine health.

With every new John Deere forestry machine, you get:

– Three years of JDLink Ultimate monitoring
– 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, filter kits, fluid-sampling kits, comprehensive fluid sampling, three years of full-machine warranty, operator training, and more.

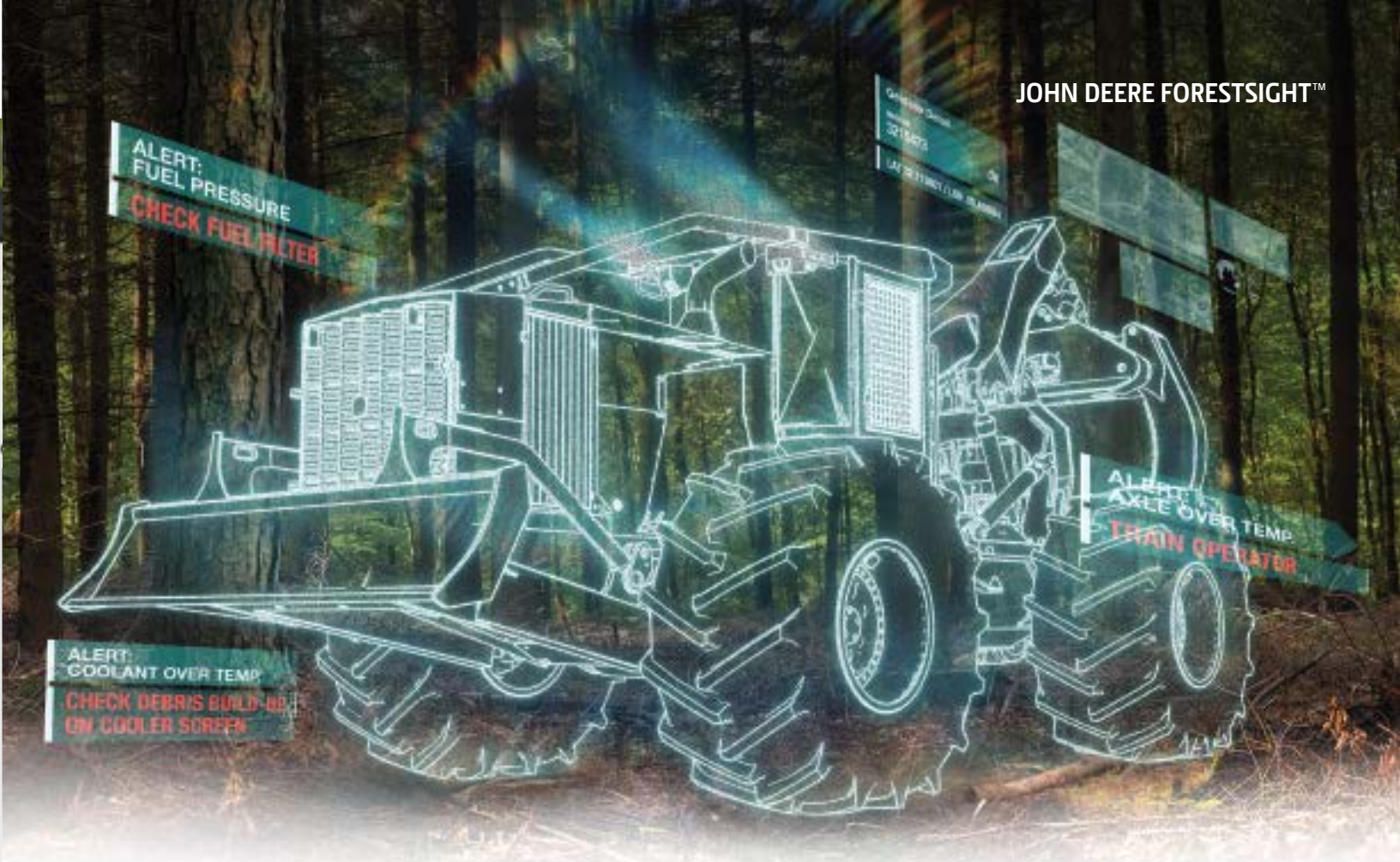
Be sure to ask about your dealer's Ultimate Uptime solutions featuring John Deere ForestSight.

LEARN MORE about John Deere ForestSight **uptime optimization technologies:**

JDLink™ machine monitoring system
See pages 6–8.

Machine-health prognostics
See page 9.

Remote diagnostics and programming
See pages 10–11.



Optimize *jobsites*

With John Deere ForestSight, monitor multiple machines and watch over an operator's shoulder from many miles away to ensure the most efficient operation.

John Deere ForestSight provides information to manage costs and revenues. Variables like distance into the woods, the number of machines required, fuel use, and more are available to help you calculate costs and negotiate fair prices.

For example:

- Analyze machine movements to identify operator-training opportunities.
- See fuel levels to forecast efficient refueling.
- Monitor skidder and feller buncher production.
- Document forwarding distances to negotiate rates with mills.
- Track inventory freshness to ensure product quality.
- Identify opportunities for workflow improvements.
- View startup and shutdown times for each machine.
- View stem-count production reports for tracked feller bunchers.

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

JDLink™ machine monitoring system
See pages 6–8.

Manage multiple machines from one place

Ever feel like you need to be in two places at once…especially when you're running more than one crew at a time? JDLink can help you centrally, smartly manage machines working at multiple sites, 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. Your crew members can even download the JDLink app for free to their smart phones. Just knowing where machines are working saves time and reduces phone calls.

A family of telematics devices that suits 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 tool-sheds, chippers, grinders, mulchers, generators, compressors, welding machines, trailers, and skid steer loaders
Benefit	A value-priced, self-contained solution for equipment location and enhanced security — no electrical connection required
Features	– 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*

The JDLink website runs on Microsoft® Windows® Internet Explorer® 6 and higher or Mozilla® Firefox® 3 and higher browsers. The Adobe® Flash® Player plug-in must be installed.

Satellite communication *Cellular*

Choose the dual-mode option for connectivity on remote sites

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	MTG/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, tank trucks, and tow trucks	John Deere forestry equipment working in remote and/or high-production applications — comes standard on new John Deere forestry 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
– 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	– 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	– Geofence – Curfew – Machine grouping – On-demand updates – Machine hours – Maintenance tracking – Equipment utilization and engine load levels – Fuel consumption – Operator-productivity indicators – 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
 Modular Telematics Gateway (MTG)	**JDLink Ultimate** hardware — known as the Modular Telematics Gateway (MTG) — is built tough to withstand harsh forestry equipment use. It is included in base on new John Deere forestry models, and is also available as a field kit.	**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
 OBD-II Fleet-Monitoring Terminal *MC-3 Fleet-Monitoring Terminal*	There are two Fleet-Monitoring Terminal field kits available for **JDLink Express.** One is for light-duty trucks and semis, and requires an ODB-II port for installation. The other is for equipment such as skid steer loaders, compact excavators, heavy-duty trucks, tank trucks, tow trucks, and other equipment with a battery. It features a simple three-wire connection. Both terminal types install inside the machine.	**OBD-II FLEET-MONITORING TERMINAL** **Dimensions:** 43 x 64 x 25 mm (1.7 x 2.5 x 1 in.) **Weight:** 51 g (1.8 oz.) **Input voltage:** 7 to 20 volts **Power consumption:** <3 mA @12 volts (deep sleep); <11 mA @ 12 volts (sleep on network); <140 mA @ 12 volts (active standby) **Operating temperature:** –30 deg. C to +75 deg. C **Storage temperature:** –40 deg. C to +85 deg. C **Shock and vibration:** SAE J1455 **MC-3 FLEET-MONITORING TERMINAL** **Dimensions:** 150 x 75 x 25 mm (6 x 3 x 1 in.) **Weight:** 273 g (9.6 oz.) **Input voltage:** 12- and 24-volt systems **Power consumption:** 10 mA @ 12 volts (sleep); 65 mA @ 12 volts (active); 300 mA @ 12 volts (transmitting) **Operating temperature:** –40 deg. C to +85 deg. C **Storage temperature:** –40 deg. C to +85 deg. C **Shock and vibration:** SAE J1455
 Asset-Tracking Terminal	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, compressors, trailers, welding machines, 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.	**Dimensions:** 55 x 55 x 260 mm (2.25 x 2.25 x 10.5 in.) **Weight:** 907 g (32 oz.) **Power:** 3.6-volt 57-Ah replaceable lithium internal battery **Power consumption:** <1 mA (deep sleep); <10 mA (sleep on network); <70 mA (active standby) **Estimated battery life for two call-ins/day:** 5 years **Operating temperature:** –30 deg. C to +75 deg. C **Storage temperature:** –40 deg. C to +85 deg. C **Shock and vibration:** U.S. military standards 202G and 810F; SAE J1455

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.

Advanced healthcare for your machines

John Deere ForestSight'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 ForestSight 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.

John Deere ForestSight's exclusive machine-health prognostics process:

JDLINK DATA

FLUID ANALYSIS

INSPECTION RESULTS

RULES ENGINE

The condition-based rules engine's exclusive logic analyzes the inputs, identifies problems, and measures how critical they are. A machine-health solution is generated.

MACHINE-HEALTH SOLUTION

The system delivers solutions to the dealer or customer via email or work order to resolve issues before they cause downtime.

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 ForestSight'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

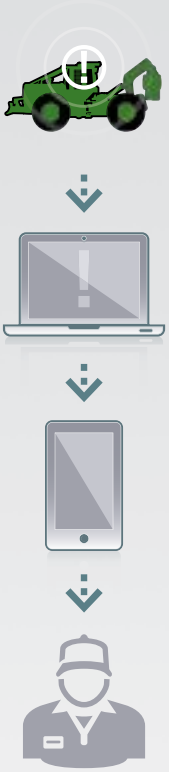
Using remote programming, your machine can also receive wireless software updates, forestalling a technician having to come to the jobsite with laptop in hand.

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 equipment just got a lot more compelling.

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

EXAMPLE 1

IMPROPER MACHINE OPERATION



1. **JOHN DEERE ForestSight** sends "clutch temperature" alert to dealer from jobsite.
2. Dealer accesses **JDLINK™** website, reviews machine-performance data, and suspects the problem may be resulting from excessive inching pedal use.
3. Dealer contacts customer and makes **REMOTE DIAGNOSTICS** connection — absence of additional transmission-related codes confirms that machine is healthy. Dealer clears code.
4. **DEALER** confirms overall machine health is fine but advises the customer to instruct his operator not to ride the inching pedal.

RESULTS: Dealer detects improper machine operation with the potential to harm the transmission over time — without a trip to the jobsite.

EXAMPLE

2

REMOTE SOFTWARE UPGRADE

1. Dealer receives a series of "engine derate" alerts from **JOHN DEERE ForestSight.**
2. Dealer contacts the customer, who confirms the machine is sluggish.
3. Dealer matches the derate symptoms and diagnostic code with a service bulletin that identifies the problem and requires a software update.
4. **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. Customer contacts the dealer to report a malfunction with the bump shifter.
2. Dealer technician establishes **REMOTE DIAGNOSTICS** connection and records transmission data from the Transmission Control Unit (TCU) during machine operation. After analyzing the data, the dealer determines the TCU needs to be replaced. **JDLINK** records driving directions after locating the machine.
3. **DEALER** technician arrives with new TCU in hand for onsite repair.

RESULTS: Dealer sends a technician to the jobsite with the correct part for quick repair, avoiding an initial time-consuming diagnostic trip to the jobsite.

Your dealer works for you

John Deere ForestSight™ 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 ForestSight 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 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.
- 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 ForestSight experience is exactly how you want it.

DKEFWS Litho in U.S.A. (15-07)

JohnDeere.com/forestsight