



**MACHINE CONTROL SOLUTIONS**

**SINCE 1842**



The background of the advertisement features two CASE construction vehicles. On the left, a CASE 925LC wheel loader is shown from a side-rear perspective, positioned on a pile of dark, rocky material. On the right, a CASE 980LC crawler loader is partially visible, showing its cab and tracks. The vehicles are yellow with black accents. The sky is a clear, pale blue. The overall scene is a construction or mining site.

# *THE MOST PROFITABLE JOBS ONLY MOVE MATERIAL ONCE.*

No over-digging. No undercutting. No wasted time, fuel or dollars. No extra wear and tear on your equipment. Machine control helps eliminate rework by making reliable, repeatable precision a reality. Whether its mass excavation, spot-dozing, trenching or practically any earth-moving application, machine control solutions through CASE help you deliver faster, higher-quality work, job after job.

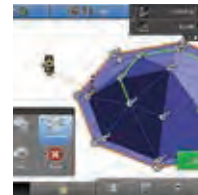




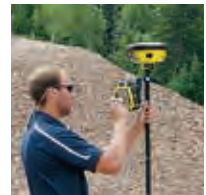
## **Leica Geosystems**

CASE has partnered with Leica Geosystems for machine control solutions. Leica Geosystems is a leader in machine control technology and developer of iCON, a portfolio of products and software tailor-made for construction applications. Together, we provide the machine and application knowledge you depend on, paired with intelligent, easy-to-use technologies to do the best job, at any job, every time.

### **Machine Control Solutions Available**



Leica iCON site



Leica iCON gps



Leica iCON robot



iCON excavate



iCON grade –  
Dozers



iCON grade –  
Motor Graders



iCON grade –  
Wheel Loaders



iCON grade – Box  
Blade Systems

**Leica**  
Geosystems



## **Leica Geosystems**

*intelligent CONstruction.*

Fully understanding construction carried us beyond the ordinary. Leica iCON is more than a product line and a software package, it enables you to enhance your performance and increase your profitability through perfecting your construction workflow.

Leica Geosystems' iCON portfolio through CASE Construction Equipment offers you tailor-made hardware and software solutions for all positioning and measuring tasks in road and general construction.

Intelligent and easy to use, the customizable solutions enable you to enhance your performance and increase your profitability through perfecting your workflow.





### ***iCONstruct***

Tailor-made hardware and software solutions for positioning and measuring tasks on site.

- Custom-built
- Straightforward
- Extendable
- Interchangeable



### ***iCONtroll***

Providing you with perfect communication between construction personnel on site and our comprehensive portfolio of machine control solutions.

- Suitable for small to large sites
- Reliable and seamless sensor communication
- Streamlined workflow & data handling



### ***iCONnect***

Connect your system to a superior network. Wireless data transfer, easy, fast and secure.

- Instant guidance and checks
- Real-time data guarantees alignment to project changes
- High productivity



### ***iCONsult***

An extensive support network, with clear guidance on intelligent CONstruction benefits to grow your business.

- Worldwide network
- Personal service
- Professional consultancy





**iCONstruct**

Seamless integration with one user interface.



## Invest in the Solution You Need Today

And the flexibility to expand your product portfolio based on your future needs.



### Leica iCONstruct field software

Core central interface to all iCONstruct sensors and devices with unmatched simplicity with no compromises on functionality.

### Leica iCON robot 60

High-end robotic total station with superior technology and iCON on-board.



### Leica iCON robot 50

One-person operation, saving time and increasing productivity when carrying out layout tasks and as-built checks.



### Leica iCON CC80

Rugged, lightweight controller for uncompromising site work.



### Leica iCON gps 60

Versatile smart antenna for multi-purpose positioning tasks.



### Leica iCON CC66

Rugged, mobile tablet PC with enhanced connectivity and functionality.



### Leica iCON gps 80

GNSS machine receiver  
Versatile, powerful GNSS receiver for machine control and in-vehicle applications.



### Leica iCONstruct office software

Data preparation and verification of simple and complex project plans.



## Leica iCON site

### *Profit From Your Investment*

#### Advanced User Interface Customized For Construction Personnel

iCON site is designed to increase your productivity and enable you to adapt to any given scenario on site. If you work with machines on site, use iCON site to check your progress to determine if you are working to the correct depth, profile, grade or surface, without having to wait for an engineer or surveyor to carry out these tasks. iCON site is developed to seamlessly integrate with any of the iCONstruct sensors and with the iCONtrol machine solutions.

Using the same, interchangeable user interface means:

- You only need to learn its functionality once resulting in less training, increased motivation and significantly reducing your investment
- The ability to exchange hardware and data between on-machine and off-machine use, projects and site personnel maximizes your flexibility and reduces possible downtime

#### Exceptional Application Functionality

The exceptional features and unmatched graphical support within the iCON site allow you to carry out specific tasks on site in an easier, straightforward way. Use iCON site for checking dimensions, volumes, positions and the status of key site elements. iCON site allows the user to complete all site related tasks from one measuring device ensuring an effortless process from start to finish.

- Simply measure, stake-out or check site elements without waiting for an engineer or surveyor to do the work for you
- Benefit from quick volumes and checks by using iCON site for Site Navigation on your vehicle
- If using 2D machine control, iCON site allows the operator to mark out the required starting point or boundary of the profile to be used on the excavator or dozer





## Leica iCON site for Foremen

*Take the guess work out of your project*



### **With the Leica iCON site field solution, you can increase efficiency and quality of work on site**

The Leica iCONstruct field Supervisor and Foreman kit from Leica Geosystems gives you instant real-time access to project statistics in the field, allowing you to make informed decisions quicker than ever before. Instantly increase site productivity by checking the efficiency of your machines and site personnel with an easy-to-use in-cab display, make checks on whether your project is on time, on budget and on specification. With iCON site software, you can carry out accurate as-built checks, grade checking and volume calculation.

- Real-time project information and statistics in the field
- Update site personnel with new design files and work orders
- Minimize errors and avoid costly rework
- Increase machine utilization and save fuel costs by doing the job right the first time
- Calculate the exact volume of excavated dirt or fill materials needed to optimise material savings
- Conduct simple site measurements and calibrations without waiting for a surveyor to do the work – reducing machine downtime and increasing productivity
- Navigate to points-of-interest, such as control points or site boundaries



## Leica iCON CC66 / CC80

*Perfect real-time communication on site*

Leica iCON CC66/CC80 versatile tablet PC's are designed to transport a user's office directly to the field

The rugged, lightweight devices have a clear and easy-to-use 7" touchscreen designed to facilitate with data collection tasks on site, while at the same time communicating with the central office, real-time data transfer is made easy!

- Leica iCON CC80 controller is the world's thinnest and lightest fully-rugged 7" Windows® tablet and features a battery life of up to 16 hours
- Large 7" sunlight readable touchscreen display for convenient operation
- Windows 7/Windows 8.1 multi-lingual operating system
- Various communication possibilities (Bluetooth®, WLAN, 3G/4G modem, LAN, USB, RS232) for the use with different sensors for different applications
- Leica iCON CC66 model features 3G modem and long-range Bluetooth® for more than 350m working range with TPS in one-person mode





## Leica iCON gps 60

*Smart positioning on any construction site*

### Leica iCON gps 60 Is A Versatile SmartAntenna For All Construction Positioning Tasks

- Superior GNSS Technology for maximum accuracy and reliability. Features Leica SmartTrack+ and SmartCheck+
- SmartLink increases productivity by maintaining high accuracy positions even after RTK signal loss for up to 10 minutes
- Future-proof satellite tracking. Works with all existing and future satellite systems
- Multi-purpose GPS solution. Can be used as construction site GNSS Base, Rover or NetRover, in supervisor vehicle on site and entry level machine control mounted inside a machine
- Unique communication flexibility, featuring integrated radio, modem and Bluetooth®
- 4G modem provides excellent network performance
- Integrated NTRIP Server and Caster for internet based Reference Station, means no radio frequency interference or radio range limitations. GNSS measurements are made even easier!
- No controller required for base station set-up means you need less hardware



Save time and increase productivity monitoring the grade from your supervisor vehicle on site.



Leica iCON gps 60 is the perfect mobile base station for your construction site. You don't need a controller for base station set-up. Stream corrections over the internet without radio.



Perform many positioning tasks yourself, easily and quickly. Check grade or cut & fill, stake out points and lines and as-built checks.



Use Leica iCON gps 60 for machine control as entry level installation. The iCON gps 60 provides more flexibility for smaller contractors who need a GNSS pole solution as well, but not all the time. They can use the same hardware on and off the machine.



## Leica iCON robot 50 / robot 60

*Robotic total stations for one-person operation*

Save time and increase your productivity by doing layout work and as-build checks yourself. With Leica iCON robot 50 /robot 60 you don't need an operator at the instrument.

The robotic total stations can be operated from the field controller at the prism pole, at the point you need positioning.

Leica iCON robot 50 / robot 60 are designed specifically for ease-of-use within the construction industry, simply level the instrument and go! With the iCONstruct software, you can use it for a wide range of measuring and positioning tasks on site.

- Most accurate reflectorless measurements in its class
- One-button keyboard for simple operation
- PowerSearch (patented search technology)
- Superior tracking performance
- Flexible data communication: WLAN (150m range) or long-range Bluetooth® (350m), simply upgrade your communication by swapping the instrument handle
- Electronic Guide Light (EGL) assisting the operator with the prism targeting
- Easy hand-over control from rover to machine control and vice versa
- Wide range of applications
- Operates seamlessly with all Leica iCON sensors

**Leica iCON robot 60 - built with a focus on construction workers.**

### Highlights

- Minimized training and support by using the same clear menus and graphics found on all iCON devices
- Designed for optimised workflows, allowing foremen and site supervisors to complete routines faster and simplifying a variety of tasks
- Fully supports the iCONstruct telematics option which connects BIM operators with their team in the field
- Setup Pilot – world's first fully automatic setup measurement method
- Cube Search – boosts prism search to a maximum
- Target Snap – ignores other prisms, just locks to yours
- ATTACK support for PaveSmart 3D





## Leica iCON office

*The ultimate construction data preparation software*

Successful on-site measurement, whether checking, staking or using machine control systems depends upon the preparation and integrity of the design data. The software application used to prepare design data for on-site measurement and machine control systems must maintain this integrity whether design data comes in the form of a paper plan or a complete 3D digital model. Leica iCON office, a complete data preparation, editing and reporting software package can fulfill this requirement and much more.

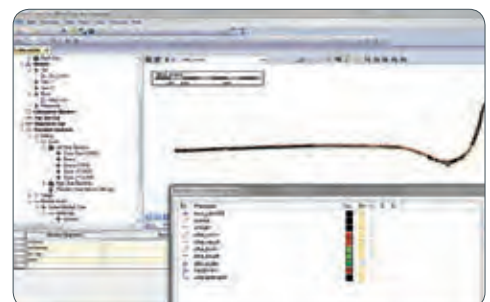
### iCON office speaks the language of your design data

The Leica Geosystems philosophy is to use the shortest possible path from design to field. By working in close cooperation with local and international design software suppliers, Leica Geosystems has produced an application that can import and export data formats that have become de facto industry standards as well as many data formats that are used only in specific regions. These formats include, amongst others:

- AutoCAD DWG
- AutoCAD DXF
- Microstation DGN
- LandXML
- MX / Moss
- REB
- Ispol

Leica iCON office furthermore allows you to:

- Work with a range of different design models
- Send your design data to all of your Leica Geosystem machines and sensors from one package
- Calculate as-built cost estimates using volume analysis
- Create easy and quick quality control reportings and more standard reportings with the click of a button
- Save time and money thanks to an intuitive setup process and an easy-to-use interface







**iCONtrol**

*Custom-built solutions for machine control.*



## iCONtrol PowerSnap

*Wireless cradle – all set in one snap!*

iCONtrol makes it even easier for you to leverage the entire range of intelligent, tailor-made iCON products. iCONtrol solutions communicate seamlessly with the iCONstruct sensors and iCON office to provide you with a smooth workflow and increase your productivity on site.

Expand your possibilities with iCONnect services for remote support, easy data transfer and fleet management services. Whatever you need, Leica iCON has the solution for enhancing your workflow.



### iCONtrol PowerSnap concept

Unique patented Snap-on & Snap-off capability. Contact free. Easy upgrade 2D -> 3D. Intelligent storage of machine data.

### Leica iCON excavate iXE2 2D Excavating solution

Full 2D functionality presented on multicolor panel. Simple and intuitive user interface which provides ease-of-use.



### Leica iCON excavate iXE3 3D Excavating solution

Full visual guidance of the bucket – see the job as you want. Menu keys give the operator an easy overview of functions.



### Leica iCON grade iGx2 2D Grading solution

Easy monitoring of the blade position. Main function keys for easy operation.



### Leica iCON grade iGx3 3D Grading solution

Fully customizable 3D views of your machine and job site. Auto/manual information is presented on the screen.



### iCP41 & iCP42 – 3D solution

Combines full 2D with full 3D in ONE panel. Toggle between 2D and 3D by a simple touch of a button. Presented on a 7-inch large graphic color touch screen.



# **EXCAVATOR SYSTEMS**

1D, 2D and 3D Excavating Systems.



*Fast return on your investment*



## iCON excavate

### iXE1, 1D Excavating System

With the single slope system from Leica Geosystems you do not need to use a laser. The cutting depth is directly presented on the control box display in the cabin.

The 1D excavator system uses three inclinometer sensors mounted on the boom, stick and bucket. The sensor on the stick also has a built-in laser receiver.

The system is reset by means of a laser plane or a physically defined reference height, e.g. a grade bar or curb stone height. The desired depth and slope are entered into the control box.

With this system, you only work with a one-direction slope. The arrows on the display will indicate whether you are too low, too high or “on-grade”. This information is also given by means of an audible signal, while the LED screen also displays the level in metric units or US feet.



- 1 Easy-to-use graphical display.
- 2 Short learning curve thanks to smart menus.
- 3 Robust and reliable construction.

### 1D EXCAVATING SYSTEM FUNCTIONS

#### DEPTH

Commonly used for bases, foundations, etc.



#### SLOPE

Set the desired slope for the embankment.



#### PIPELAYING

Set the desired depth and slope of the pipe trenches.



#### UNDERWATER WORK

The bucket motion is shown on the graphical display.



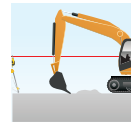
#### GRADING WORK

Set the right depth and the desired tilt in one direction.



#### LASER REFERENCE

Offers the possibility of using rotating laser as a reference.



#### GRADIENT

In the longitudinal direction.



#### HEIGHT ALERT

An audible signal warns the operator if the defined limit is exceeded. Useful around bridges and overhead lines.



## **iCON excavate**

### *iXE2, 2D Excavating System*

Our dual-slope system combines the depth, pitch and roll - giving you a complete picture of the excavation works.

iXE2 is suitable for small road excavation jobs, drainage work or parking lot excavations.

An additional rotation sensor on the counterweight upgrades the system to a dual-slope capability. The 2D function uses a compass to fix the slope direction. This means that you can move the machine without the system losing the direction.

The dual-slope system contains two sensors that record the pitch and roll and compensate for the tilt of the machine.

The machine can thus stand at an inclined position and still carry out leveling work around the entire machine.



- 1 Easy-to-use graphical display.
- 2 Short learning curve thanks to smart menus.
- 3 The Snap-on, Snap-off capacity makes it easy to remove the machine control box from the cab.



Arrow display indicating the bucket height

## **2D EXCAVATING SYSTEM FUNCTIONS**

### **DEPTH**

Commonly used for bases, foundations, etc.



### **SLOPE**

Set the desired slope for the embankment.



### **PIPELAYING**

Set the desired depth and slope of the pipe trenches.



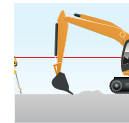
### **GRADING WORK**

Set the right depth and the desired tilt in one direction.



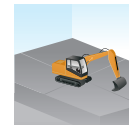
### **LASER REFERENCE**

Gives possibility to use rotating laser as a reference.



### **GRADIENT**

The system can handle both pitch and roll.



### **UNDERWATER WORK**

The bucket motion is shown in the graphical display.



### **ROLL**

Sensors record and compensate for the machine tilt.



### **PITCH**

Sensors record and compensate for the machine tilt.



### **COMPASS**

The system uses a compass to establish the direction of the tilt.



### **HEIGHT ALERT**

An audible signal warns the operator if the defined limit is exceeded. Useful around bridges and overhead lines.





## **iCON excavate**

### *iXE3, 3D Excavating System*

With the 3D system from Leica Geosystems, you will work with high precision GPS and be able to monitor the excavation position by means of a digital model.

The iXE3 enables you to use the excavator for point collection and stake out activities.

iXE3 is suitable for projects requiring staking out, e.g. large road and infrastructure projects and subdivisions, industrial sites or dereliction works.

Connect the machine computer via the built-in GSM modem to get quick support and transfers files.

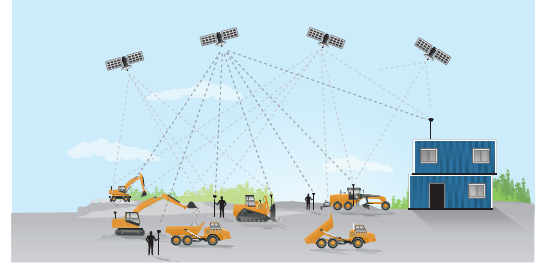
Our 3D system enables you to take the last step towards machine control. Your efficiency rate will improve by up to 30 % making it easy to gain return on the investment.

#### **Remote Site Machine Access**

The iCON telematics services include fast and easy data transfer from office to site and to construction machines, remote support for the operators and basic fleet management functionality.



- 1 Crisp, clear screen display that can be easily read, even in strong sunlight.
- 2 LED illuminated buttons.
- 3 The wireless cradle makes it easy to place and remove the computer unit from the cab.



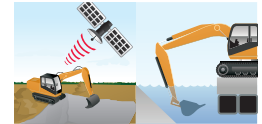
#### **3D GNSS ON YOUR MACHINE**

The machine computer receives the machine position through a GPS signal and the bucket position from the sensor. These values are then matched with the digital surface. You will see the bucket move over the design surface telling you how deep to go.

#### **GPS/3D FUNCTIONS**

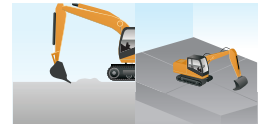
##### **3D/GPS**

Our 3D system enables you to use dual slope in 2D and reference models in 3D.



##### **2D OR 3D**

Switch between the 2D and 3D screens by just pushing a button!



##### **iCON 3D SOFTWARE**

Complete your system with iCON 3D, the software that allows you to create terrain models directly on the screen. A function that gives you great on-site freedom.



# DOZER SYSTEMS

COMPLETE 2D and 3D solutions for all large earth moving projects.



*Maximize your machine utilization  
and return on investment*



## **iCON grade**

iGD2, 2D Dozer System

Fully automatic blade control



- 1 Easy-to-use graphical display.
- 2 Short learning curve thanks to smart menus.
- 3 The PowerSnap system makes it easy to remove the machine control panel from the cab.

### **AUTOMATIC TILT FUNCTION**

The automatic tilt function allows you to be in permanent control over the dozer blade.

#### *Blade Tilt Sensor*

The MSS130x inclinometer sensor is mounted on the machine to detect the tilt of the blade.



### **AUTOMATIC HEIGHT FUNCTION**

The laser receivers have a capture angle of 360 degrees. The MLS720 laser receiver is mounted on the mast for obtaining height. iGD2 can be installed with either single or dual laser receivers.



## iCON grade

iGD3, 3D dozer system

Efficient grading using 3D design information



- 1 User definable views such as Plan View and Cut & Fill View.
- 2 Crisp, clear, high resolution daylight readable display.
- 3 Integrated SIM card slot for connection to iCONnect services.

### INDUSTRY STANDARD DATA FORMATS

iCON 3D machine software supports standard file formats such as .dxf and LandXML eliminating the need for a proprietary office software Package to convert data files.



A customer can purchase an entry level GNSS system, iGD3 and then add additional components to the system as their projects dictate growing their system to a state-of-the art iGD4<sup>SP</sup> dozer system.

The iGD3 3D dozer system opens new dimensions in earthmoving and fine grading. It brings the design surfaces and alignments inside the cab. You are no longer dependent on stringlines, stakes or hubs. Work independently, and accurately, anywhere on the project design guided by GNSS system or iCON robot, Leica Geosystems' unique robotic total station.

### iCG82 GNSS Receiver

Leica iCON gps 80 is a compact and rugged GNSS receiver especially dedicated for a wide range of machine control applications to increase the overall positioning performance on all construction equipment; such as dozers, excavators, wheel loaders, drilling rigs and pavers.





## iCON grade

iGD4<sup>SP</sup>, 3D dozer system

*Multiply your dozer's performance by the power of SP!*

Combining SP Technology with a dual GNSS antenna solution allows the customer to operate their machine at full speed, while the blade is angled to efficiently control material from pass to pass.

### iGD4<sup>SP</sup> Application Features

- Hold slope feature allowing precise crown cuts and extending past break lines when needed
- Steer-to-Edge by pick polyline technology allows operators to hold specific guidelines within a model



1 iCP42 Control Panel



3 CGA60 GNSS Antenna



2 iCG82 GNSS Machine Receiver



4 SP14 Sensor



### SP SENSOR

Leica Geosystems sensor technology provides high precision at higher speeds. Thanks to its unrivaled speed and precision, SP technology offers you new possibilities. The improved hydraulic control allows faster grading with more consistent results. The need for rework and the need for different machines will decrease dramatically. Maintain speed without sacrificing precision.



### Dual GNSS Configuration

iGD4<sup>SP</sup> is ideal for customer's who have a six way (PAT) blade mounted on their bulldozer. Having a second GNSS antenna on the blade will improve the accuracies you can achieve when working in very demanding environments such as steep slopes with the blade fully angled.



# ***MOTOR GRADER SYSTEMS***

*Automatic elevation and slope control with our 2D and 3D systems.*



*Increase precision and save material costs*



## iCON grade

iGG2, 2D grader system,  
Fully automatic blade control

The Leica iCON grader systems offer new site preparation possibilities. The system regulates the elevation and cross-slope by means of robust and high-tech sensors. The system helps you improve your productivity as well as save material costs.

The iGG2 system is easy to upgrade. Start with a height control solution using laser receivers or an ultrasonic tracer and upgrade your system on the basis of your needs. You can step from a laser-based 2D solution to a complete 3D solution with a robotic total station by just adding the iCP42 panel and the iCON robotic station.



- 1 Easy-to-use graphical display. The same panel is used on your dozer and grader, giving you the ultimate in equipment flexibility.
- 2 Short learning curve thanks to smart menus.
- 3 The wireless cradle makes it easy to place and remove the panel from the cabin.

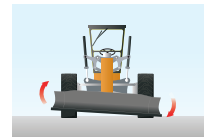
### MULTI-SWITCH

Mounted on the control levers allow you to stay in control at all times – safer, faster and more productive.



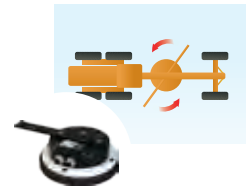
### BLADE TILT SENSOR

The MSS1300 sensor, which is an inclinometer sensor, is mounted on the machine to detect the tilt of the blade.



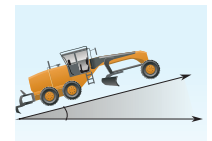
### ROTATION SENSOR

The MRS1300 rotation sensor compensates the moldboard's rotation angle influence on cross-slope – set the blade exactly how you need it, iCON grade takes care of the rest.



### MAINFALL SENSOR

Mainfall compensation allows for precise grade and slope control whatever the project conditions.



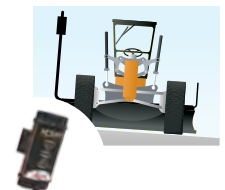
### ULTRASONIC SENSORS

Using the Leica Geosystems patented Trisonic is very simple. The curbstone, adjacent road surface or a stringline provides the reference elevation for the moldboard. Ultrasound is often used as a reference on one side and cross-slope on the other.



### MLS720 LASER RECEIVER

The MLS720 is a laser receiver with a 360 degree range.



## Our Machine Control Displays

Leica Geosystems offers both 2D and 3D solutions. With our unique PowerSnap system, one single 3D display can be used on your dozers, graders, excavators, and wheel loaders. This allows you to spread your investment across more machines and obtain a mixed fleet that you can use for many different tasks.



## CROSS SLOPE 2D/3D

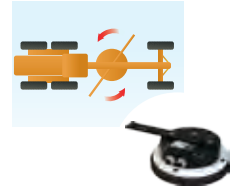
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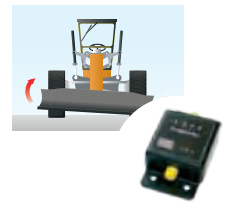
### ROTATION SENSOR

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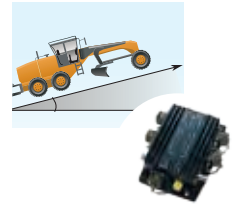
### BLADE TILT SENSOR

The MSS1300 tilt sensor maintains the desired cross-slope precisely.



### MAINFALL SENSOR

Mainfall compensation allows for precise grade and slope control whatever the project conditions.



## ELEVATION 2D

### ULTRASONIC SENSORS

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## ELEVATION 3D

### TOTAL STATION/GPS

The Leica iCON measuring equipment fits seamlessly into your machine control system and the file formats used are supported worldwide. The iCON gps and the robotic systems will help improve your productivity and precision right from the start.



### MLS720 LASER RECEIVER

The MLS720 is a laser receiver with a 360 degree range.





## iCON grade

iGG3, 3D grader system with optional side shift technology

### iGG3 Application Features

- Hold slope feature allowing precise crown cuts and extending past breaklines when needed
- Unique mast tilt compensation
- With optional Steer-to-Edge by pick polyline technology

### REMOTE SITE AND MACHINE CONTROL ACCESS

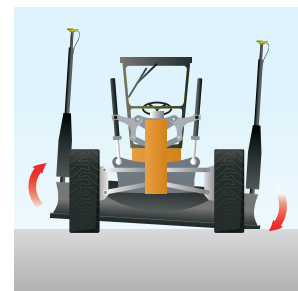
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- 2 LED illuminated buttons.
- 3 The wireless cradle makes it easy to place and remove the wireless panel from the cab.

### Dual GNSS Configuration

iGG3 can be fit with a rotation sensor, or a second GNSS antenna on the blade. The second antenna will improve accuracies achieved during operation within demanding environments, like high rake angles and steep slopes.



## **iCON grade**

iGG4, 3D grader system

Dual GNSS motor grader solution

### **Ultimate grade control for motor graders**

To get the most out of a motor grader means using it as it is intended to be used. The Leica iGG4 for graders lets operators boost their productivity by using the latest GNSS technology to incorporate dual antenna, which calculate blade positions regardless of the way the machine itself is positioned.



### **Benefits**

- Maximize the potential of your motor grader for a wider range of applications with higher accuracy.
- Run your machine in automatic mode, while moving with precision in any direction.
- Increase productivity and efficiency with your grader. The dual antenna configuration enhances accuracy, resulting in less rework.
- Difficult tasks are now easily done. Crab walk your motor grader to properly handle material windrows and precisely grade side slopes or create ditches.
- The scalable iCON grade solution lets you expand your grader's system as your projects grow in scope and size. You only invest in what you need.
- PowerSnap: same panel for any functionality level on any machine supported by iCON 3D.



## System Components

Dual GNSS grading solution – Precision and high productivity in any application.

The dual antenna configuration for motor graders offers clear advantages over single mast GNSS solutions. Regardless of how the machine is positioned, the blade is calculated accurately, allowing you to grade precisely and efficiently.

Featuring the latest GNSS technology with the iCON gps 80 receiver, the iCON grade iGG4 system ensures fast and reliable grading in any application.

Leica iCON grade iGG4 allows you to finish your jobs quicker and more efficiently saving time, money and wear and tear on your machine.

PowerSnap – Providing a new level of flexibility and user convenience

- System is up and running in no time
- Rapid interchange of control panels between machines, giving you extra flexibility on site
- One PowerSnap cradle for all iCON excavate and iCON grade panels
- Easy removal of core components for overnight security
- Contact and cable free connection to control panel
- Safety shut down feature protects system and data
- Unique patented Snap on/Snap off capability



1 iCP42  
Control Panel



2 iCG82 GNSS  
Machine Receiver



3 CGA60 GNSS  
Antenna



4 MJB1301  
Junction Box



5 MSS310  
Mast Tilt Sensor



# **WHEEL LOADER SYSTEMS**

*Increase efficiency in earthworks.*



*Maximize your machine utilization and  
return on investment from day one – get  
the grade right from the start*



## iCON grade

iGW3, 3D Wheel Loader System,  
Swift accurate leveling in soft material

Experience the unique benefits of Leica iCON grade machine control now in your wheel loader! Get your earthworks jobs done faster and right the first time. Save time and money by reducing rework and eliminating over excavation and grade checking.

With Leica Geosystems' control system for wheel loaders, you know the bucket position at any time. The system uses 3D design (CAD) models and state-of-the-art GPS/GNSS technology to guide the operator.

Design information and real-time cut/fill indications are displayed in the cab for fast, accurate operation, increasing your precision and productivity from day one.



### 3D WHEEL LOADER SYSTEM FUNCTIONS

#### GPS

The Leica iCON measuring equipment fits seamlessly into your machine control system and the file formats used are supported worldwide. The iCON gps systems will help improve your productivity and precision right from the start.



#### iCON 3D SOFTWARE

Complete your system with iCON 3D, the software that allows you to create terrain models directly on the screen. A function that gives you great on-site freedom.



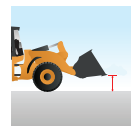
#### QUALITY CONTROL

Add accuracy and real-time corrections with 3D design models and GPS/GNSS technology, guiding operators for instant adjustments in the position of bucket/edges/blades.



#### ELEVATION

View exact elevation of the bucket/edge in real-time.



#### SLOPE

Set the desired slope for embankment.



#### GRADING WORK

Achieve/maintain design grade accurately and efficiently.





# ***BOX BLADE SYSTEMS***

*Automatic elevation and slope control.*



*Fine Grading Solutions for Light Equipment*



## iCON grade

iGSS2, 2D skid steer system,  
Fully automatic attachment control

Leica iCON grade for skid steers is the ultimate tool for box blades. This flexible system can be used for push blades mounted to skid steer and compact track loaders, or box blades mounted to tractor loaders.

Single or dual laser configurations allow for height control only or height plus cross slope, giving you the ability to configure your system as the job dictates. Expand your system by adding the iCP42 and associated GNSS accessories and you have full 3D capability on your skid steer!



- 1 Easy-to-use graphical display.
- 2 Short learning curve thanks to smart menus.
- 3 The wireless cradle makes it easy to place and remove the panel from the cab.

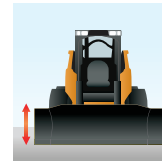
### MULTI-SWITCH

The multi-switch can be mounted inside the skid steer cab, allowing the operator to remotely override the hydraulics on the attachment for raising and lowering at the end of a run.



### AUTOMATIC HEIGHT FUNCTION

The laser receivers have a capture angle of 360 degrees. The MLS800 has an adjustable center point for height adjustments made from the control box.



### MLS720 LASER RECEIVER

The MLS720 is a laser receiver with a 360 degree range.







# ***iCONnect***

*Connect your site and access relevant information anywhere.*

*Fast and easy data transfer from  
anywhere to and from the job site*



Leica iCON telematics is a web-based suite of tools that allow you to increase the efficiency of your machine control operations on site and manage your machinery fleet remotely.

Leica iCON telematics is supplemental to Case SiteWatch™ telematics as it directly supports the application of machine control equipment on your machine.

## View

View provides the project manager the ability to remotely view the operator's screen.

View enables remote diagnostic. If the operator needs help, the off-site supervisor can take action on the screen via remote access.

Support personnel can use this function to provide quick response when needed.

## Sync

Design data for construction often need to be updated. Sync offers the possibility to upload the latest design data to your fleet immediately.

Manually uploading data via USB stick is no longer required. Data can be transferred remotely in both directions from the field to the office.

Remotely validate individual project files on machines in your fleet, ensuring they are up-to-date.

## Track

Track is a fleet management tool which integrates seamlessly into the Leica iCON portfolio.

It allows you to monitor the machine fleet in real-time and provides reports. Entry and exit can be monitored for multiple geographical areas.

Several reports can be created, such as activity, routing and others filtered by calendar, time, geographical area and/or machine type.



### View

Reduce machine down time and maintain productivity

Reduce site visits and save time by remotely checking settings on the machine

Increase uptime by scheduling operator training by using a remote instructor

Save time by remotely monitoring data used on the machine



### Sync

Reduce machine visits and decrease downtime

Save time and money by avoiding rework

Effective handling of support and maintenance by remotely uploading the latest firmware



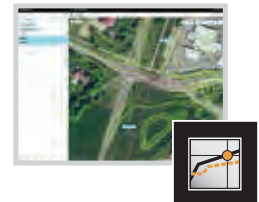
### Track

Quick response by use of real-time reporting

Improved day-to-day operations by recording results on the utilization of equipment

Save time and reduce repetitive work by generating on demand reports or create predefined schedules

Monitor the utilization of equipment on site



## SmartNet North America

GNSS RTK Network Solutions



### SmartNet Advantages

- Quality
- Productivity
- Reliability
- Cost

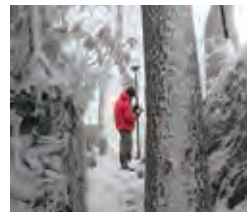
SmartNet is a subscription based service offering GNSS Network RTK corrections throughout North America. SmartNet provides high-precision, high-availability Network RTK corrections for any application, using any constellation, and is available to everyone.

Leica Geosystems directly operates, manages, and maintains all segments of the network, from the reference stations in the field to the server and IT infrastructure.

SmartNet is built on the powerful Leica Geosystems GNSS Spider software providing a variety of real-time data products to the end-user. It is open to all data formats, offering a GNSS RTK solution to anyone in the precision measurement marketplace.

SmartNet provides the largest and only North American-wide GNSS RTK Network available in the market today. Leica Geosystems offers everything from the reconnaissance and installation of the reference stations themselves, managing subscriptions services, to monitoring the network's health and operation 24/7.

SmartNet has opened the doors to new markets in precision measurement across many industries such as Precision Agriculture and GIS, while at the same time providing a stable and reliable infrastructure for the traditional construction and surveying applications.





## Construction

SmartNet is being used more and more frequently in high-profile construction projects in North America. Highway construction projects, airport runways, sport stadiums and any construction application that requires precise machine operations and repeat centimeter accuracy.

SmartNet offers a dedicated real-time data product for dynamic machine control, vehicle and pole applications. The SmartNet configuration for this product is perfectly tuned to ensure uninterrupted positioning during typical machine maneuvers.

The iCON GNSS rovers are tuned to ensure uninterrupted construction site operation in the event of:

- Machines, vehicles or poles moving across the boundary between any two base stations in the network
- Base station outage in the network
- Outage in SmartNet network processing (automatic fallback to single site corrections)

Machine control applications demand varying levels of accuracy. Real-world performance testing with SmartNet has shown that optimal machine performance can be expected when operating within the following distances from the nearest base station\*:

- Grader, < 15 km
- Dozer, < 20 km
- Excavator, < 30 km
- Wheel Loader, < 30 km
- Driller/Piler, < 30 km
- Pole / Vehicle, < 30 km

This optimised SmartNet product, which is available worldwide, ensures:

- Maximize construction site productivity
- Maximum machine uptime
- Best machine positioning performance possible

\* Measurement precision and accuracy in position and height are dependent upon various factors including number of satellites, satellite geometry, observation time, ephemeris accuracy, ionospheric conditions, multipath etc. Further, RTK network cell design and station separation have a significant influence on the obtainable measurement precision and accuracy. Figures quoted assume normal to favorable conditions and network design. The figures quoted are based on measurements performed with GPS and GLONASS. A full Galileo and GPS L5 constellation will further increase measurement performance and accuracy.



A photograph of two men in construction safety gear. They are wearing white hard hats and high-visibility yellow safety vests over dark shirts. The man on the left is also wearing sunglasses. They are both looking down at a tablet computer held by the man on the right. In the background, there is a large piece of yellow construction machinery, possibly a backhoe loader, under a clear blue sky.

# ***iCONsult***

*An extensive support network, with clear guidance on intelligent construction benefits to grow your business.*

- *Worldwide network*
- *Personal service*
- *Professional consultancy*



## **Leica Geosystems Customer Care.**

*Get maximum benefit from your investment*

When you buy your Leica Geosystems Customer Care Package, you can rest assured that our service team supports you while you work. Local knowledge, reliable support, and understanding our customers' needs is essential for you to get maximum benefit from your machine control investment.

Each region will tailor the service to the Customer Care Package with their local resources, networks and knowledge of projects working with equipment supplied by Leica Geosystems.

For more information, contact your local Leica Geosystems dealer.

## **myWorld @ Leica Geosystems**

*Product information at your fingertips*

myWorld offers Leica Geosystems customers and partners a wide range of services, information and training material. With direct access to myWorld, you are able to access all relevant services whenever it is convenient for you, 24 hours a day, 7 days per week. This increases your efficiency and keeps you and your equipment instantly updated with the latest information from Leica Geosystems.

## **active >>** **Customer Care**

With a Leica Geosystems CCP contract, you receive:

- High level of service and reduced downtime
- Access to the latest software
- Optional extended warranty packages

Global coverage – local support

## **my** **world**

### **myTraining**

- Train yourself online
- Download training material
- Register for courses & seminars

### **myService**

- View service history
- View details of service cases
- View current service status

### **mySupport**

- Create new support requests
- View your support history
- Review detailed information on support requests

### **myProducts**

- Add your products
- Buy options online
- Upgrade Software
- Download user manuals

Coverage You Can Count On:

CASE Construction and Leica Geosystems provides you with precision technology knowledge and application experience, empowering you to do more.

We offer comprehensive end-to-end service from initial consultation and evaluation through installation, training and support for the widest range of machine control and positioning applications.

Our nationwide organization makes it possible for us to offer personal service and support wherever we are needed.

Dealer Imprint

CaseCE.com/Solutions

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CASE Construction Equipment is biodiesel-friendly  
NOTE: All engines meet current EPA emissions regulations. All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.



Always read the Operator's Manual before operating equipment. Inspect equipment before using it, and be sure it is operating properly. Follow the product safety signs and use any safety features provided.