Innovative Wireless & Cable-Based Solutions for the Crane & Lifting Industry
The forward-looking statements made in this presentation and any subsequent Q&A period, are subject to risks and uncertainties. Trimble's actual results may differ materially from those currently anticipated due to a number of factors, including the competitive nature of the marketplace, the condition of the worldwide economy and other factors detailed in the company's form 10K for 2015 and subsequent 10Qs or other documents filed with the Securities and Exchange Commission.
A world leader in transforming how work is done across multiple industries and professions

Our customers gain significant economic breakthroughs at the same time improving quality, safety, regulatory compliance and reducing environmental impact

Our technological capabilities span positioning and sensing, global connectivity, 3D design, modeling & measurement, machine and process automation, and powerful data analytics

2015 Revenue US $2.3 Billion; 8,000+ employees

Founded in 1978, headquartered in Sunnyvale, California with facilities in 36 countries, partners in 125 countries and customers in 150 – from some of the world’s largest corporations to some of the smallest family firms
Load Systems International was acquired by Trimble Inc. in order to further integrate crane indication & load monitoring into construction processes.

As Trimble’s Lifting Solutions Division, we are able to leverage Trimble’s global footprint, technology depth & market-leading presence.

Founded with the goal of revolutionizing the standards of crane & lifting technology, Trimble’s Lifting Solutions Division has been on the forefront of innovation for over 15 years, leading the market in wireless & cable-based crane instrumentation.
Connected Site: Transforming Work in the Field

- Labor and machine productivity
- Reducing rework
- Process optimization
- Increasing quality
- Reducing input costs
Product Applications
Crane & Lifting Applications

Ideal load monitoring solution for general construction, roads, buildings, mining & other applications, Trimble’s Lifting Solutions products meet or exceed strict industry requirements.

GS112 Cable Reel to measure length & angle

GS820 Multi-Sensor Display
Crane & Lifting Applications

Ideal solution for many types of cranes & other machinery in a range of industries:
- Construction
- Onshore
- Offshore
- Industrial
Energy & Offshore Applications

Systems designed to operate effectively in hazardous environments such as:

- Offshore Oil & Gas Production Platforms
- Oil & Gas Vessels
- Drilling Rigs

Cable-Based 4100IS System for Offshore Applications
Energy & Offshore Applications

A diverse range of wireless & cable-based load monitoring displays & sensors with ATEX Zone 0, 1, 2 certification options available.
Energy & Offshore Applications

A diverse range of wireless & cable-based load monitoring displays & sensors with ATEX Zone 0, 1, 2 certification options available.
Energy & Offshore Applications

Many of our wireless & cable-based load monitoring sensors are made from stainless steel, ideal for protecting against corrosion caused by marine & offshore environments.

- Stainless Steel Cable-Based Line Rider
- Stainless Steel Wireless Line Rider
- Cable-Based Mini Tensiometer
- Stainless Steel Tensiometer Monitoring Rope Payout, Speed & Load
Choose from a variety of products that allow onsite personnel to efficiently monitor load & critical data from multiple sensors for overhead, gantry & mobile cranes.
Manufacturing & Warehouse Applications

- Record jobsite data for tracking & reference while controlling crane functions
- Monitor sensor data on your jobsite with mobility
OEM Solutions

Trimble’s Lifting Solutions Division has proven experience in providing effective OEM solutions for very specific applications or for projects requiring maximum flexibility.

GS820 Wireless Multi-Sensor Display, A2B Switch, Load Pin & Transmitter customized for Volvo Pipelayers

8510 RCI/LMI System Display & Crane Controller, ideal for OEM applications
The MC602 is a tower crane zoning & anti-collision system designed to prevent cranes from flying over forbidden areas (buildings, rail lines, public transportation, etc.) as well as colliding with other cranes on the jobsite.

As an available option, Supervisor Software enables remote monitoring of cranes on the jobsite over the internet, allowing real time monitoring anywhere in the world.
HBC Radio Remote Controls

- Hand-held & belly pack designs available
- Customizable controls & settings
- Ex versions available

Monitor load, rated capacity & more for overhead cranes, mobile cranes & other lifting equipment. Features include:

- Hand-held & belly pack designs available
- Customizable controls & settings
- Ex versions available
Specialized Camera Solutions

Orlaco Cameras offered by Trimble’s Lifting Solutions Division contribute to jobsite visibility & enable crane operators to work more efficiently.

Orlaco Compact Camera

Orlaco Boom Tip Zoom Camera & Display

Orlaco Multi-Camera Display
Wireless Systems

▪ Retrofit to machines of almost any age, enabling operators to use the latest technology available on the market
▪ Transmitters, sensors, cable reels & other products are easily installed & quickly operational
▪ Certifications available for hazardous area operation
Wireless Systems

Innovative & market-proven instrumentation utilizing the latest in wireless technology:

▪ 4,300 ft (1,300 m) typical transmitter range
▪ Proprietary radio technology allows effective communication in environments with potential outside radio interferences
▪ Data log up to 15,000 events with the GS550 Multi-Sensor Display, up to 32,000 events with the GS820 Multi-Sensor Display
Cable-Based Systems

A popular method of monitoring load data utilizing a constant power source:

▪ Displays & sensors available for OEM applications & hazardous area operation

▪ Complete RCI/LMI System with Crane Controller available

▪ Available sensors include load, angle, tilt, A2B, length, wind speed & more

8510 RCI/LMI System Display

Cable-Based Cable Reel

Cable-Based Tensiometers
Hydraulic Cranes

Possible wireless or cable-based system options:

- Display
- Load Sensor
- A2B Sensor
- Wind Speed Sensor
- Cable Reel
- Pressure Transducer
- Slew Sensor
Tower Cranes

Possible wireless or cable-based system options:

- Display
- Load Sensor
- Wind Speed Sensor
- Slew Sensor
- Trolley Solutions
- Zoning & Anti-Collision
Lattice Boom Cranes

Possible wireless or cable-based system options:

- Display
- Load Sensor
- Wind Speed Sensor
- A2B Sensor
- Angle Sensor
Multi-Sensor Displays
NEW

8510 RCI/LMI Cable-Based System

- Easily view, export & archive the data log to your PC using Log Viewer Software
- Manage all aspects of crane operation

Monitor a number of parameters at-a-glance, including:

- LMI Sensors: Load, A2B, Wind, Boom Angle, Length & more
- Engine hours, On/Off switches, engine/transmission temperatures & oil pressure

8510 RCI/LMI System Display

8510 RCI/LMI Crane Controller
4100IS RCI/LMI Cable-Based System

Effective monitoring solution for offshore, explosion proof & intrinsically safe jobsites.

- Certified to ATEX Zone 1 standards
- Monitor hook loads, Rated Capacities (RC curves), boom length, boom angle, radius, boom tip height, hoist rope falls, duty (sea-states) & more
- Optional AGOP/GOP (Automatic/Manual Gross Over-Moment Protection)
MBR Series Wireless Display

- Allows for mobility on the jobsite
- Light & portable
- Handheld or cab-mounted versions available
- Monitor the following types of sensor data: load, wind speed, wind gust, A2B, boom angle, trim angle, list angle, rope payout, rope speed or pressure
GS820 Multi-Sensor Wireless Display

- Monitor load weight, A2B, angle, length, radius, wind speed, tip height, slew
- Monitor up to 32 sensors at one time
- USB port for uploading charts/firmware & downloading data log content
- View data in graphical or text layout

GS820 with an all stainless steel enclosure also available

GS820-10/11 Display is flame proof protected & ATEX Zone 1 certified
GS550 Multi-Sensor Wireless Display

- User settable limits & alarms for each installed sensor
- USB port for uploading charts/firmware & downloading data log content
- Sunlight readable display
- Monitor up to 16 sensors at one time

GS550 ATEX Display features an all stainless steel enclosure
External Display Series

- Displays load data from wireless load sensors using the Gateway Router
- Indoor & outdoor versions available, 4 or 6 digit capability
- Options for viewing distances of up to 100 ft, up to 200 ft or up to 300-400 ft (up to 30 m, up to 61 m or up to 91-122 m)
- Red digit LED illumination
Systems & Sensors
Wind Speed System

- Measure wind speed in a wide range of residential, commercial, marine or heavy industrial applications
- Wireless wind speed sensors transmit data to stand-alone or multi-sensor displays, or to the Gateway Router
- ATEX Wind Speed Sensor options available
Wind Speed Sensors

- Wide communication range: 4,300 ft (1,300 m)
- GS026 has user-replaceable wind cup assembly
- Simple battery change

The GS020 Wind Speed Sensor is available with ATEX Zone certifications for use in hazardous locations.
Anti-Two-Block (A2B) System

- A wide variety of A2B Switch designs are available to suit specific needs & environments
- Wireless A2B Switches can transmit data to the GS375 Wireless A2B Display, GS820 & GS550 Wireless Multi-Sensor Displays or to the Wireless Gateway Router
- Cable-based options available
Trimble’s Lifting Solutions Division offers versatile wireless & cable-based angle, length & slew monitoring options for a variety of environments & applications.
Angle Sensors

GS010 Wireless Angle Sensor Options:
- Boom Angle (-90° to +130°)
- 360° option available
- List & Trim (-45° to +45°)

Cable Based Angle Sensor:
- Range: 0° to 360°
- ±0.2° accuracy
- Voltage, current & CANbus options available

GS010 Wireless Angle Sensor

Cable-Based Tilt Sensor
Cable Reels

- Wireless cable reels are ideal for any crane boom, 32 ft (10 m) & 140 ft (43 m) options available
- Cable-based cable reels enable monitoring of boom length & boom angle, along with A2B data; 43 ft (13 m), 85 ft (26 m), 115 ft (35 m) & 131 ft (40 m) options available
Load Cells

Wireless GS Series Load Cells available:

- Pre-calibrated
- Temperature compensated
- +2/-0% accuracy on a single part of line
- Optional ATEX certifications
- Install on ball, block or boom tip dead end

Cable-Based Load Cells:

- Available capacity range of 1,100 - 600,000 lb (0.5 - 300 T)
- Made from stainless steel
- Voltage, current and mV/V options available

Wireless GS Series Load Cells:

- Available capacity range of 1,100 - 600,000 lb (0.5 - 300 T)
- Made from stainless steel
- Voltage, current and mV/V options available

5K lb (2.5 T)  35K lb (17.5 T)  170K lb (85 T)  400K lb (200 T)
12K lb (6 T)  60K lb (30 T)  250K lb (125 T)  600K lb (300 T)
18K lb (9 T)  100K lb (50 T)  300K lb (150 T)  Single Part Capacity

Trimble
TRANSFORMING THE WAY THE WORLD WORKS
Wireless Underhook Load Cells

- 12.5t – 150t (Metric Tons) range available
- Made from lightweight aluminum for maximum portability
- Use the GS550, GS820 or Gateway Router & Trimble’s Load Cell Communicator Software for easy data logging & exporting
Pressure Transducers

- Unlike a standard RCI/RCL System, an LMI system with pressure transducers monitors the effects of boom weight, wind, ice, rain & other environmental factors
- Wireless & cable-based pressure transducer options available
Load Pins

- Custom builds available in varying sizes & capacities
- Ideal when maximum hook height is critical
- Wireless load pin & transmitter made from stainless steel
Tensiometers

- Wireless & cable-based options with a variety of sizes, rope diameters & line pull capacities
- Wireless rope payout/speed/direction options available
- Ideal for applications where space for a load cell is unavailable or when the hook falls below the water line
Accessories

- LS088 Power Supply provides a clean & consistent way to power Trimble’s Lifting Solutions products
- Simplify connectivity of Trimble’s Lifting Solutions wireless displays with the LS089 Relay Junction Box
- The Load Cell Cage/Skip Frame provides load cell protection for the most rugged applications
Wireless Gateway Router

- Send wireless data directly from Trimble’s Lifting Solutions sensors/transmitters to a PC or PLC
- Communicates with up to 32 two-way sensors
Wireless Transmitters

- Transmits data from pressure, on/off, strain gauge & other sensor types
- Typical range of 4,300 ft (1,300 m)
- ATEX Zone 0,1,2 options available
Data Logging & Dashboard Software

Forward data from Trimble’s Lifting Solutions sensors/transmitters directly to a PC or PLC computer for real-time jobsite monitoring & data logging.
Data Logging & Asset Monitoring

An effective tool for fleet management & productivity, E-Log Systems accurately receive data including:

- Lift Configurations (Crane Applications)
- Equipment Tracking (GPS)
- Engine Monitoring
- Service Intervals & Scheduling
- Equipment Reports & Graphs

E-Log System
Data Logging & Load Monitoring Software

Load Cell Communicator

The powerful & easy-to-use PC software for logging load data

- Works directly with your laptop & GS550, GS820 Display or Gateway Router
- For use with any Lifting Solutions wireless load cells

Real time data transmitted from Wireless Load Cells to the GS550, GS820 Display or Gateway Router

Generate Microsoft Excel® datalog spreadsheets
Global product development at Trimble’s Lifting Solutions Division is driven by existing customers & the ever-expanding needs of the market.

Trimble aims to provide versatile solutions that can be utilized in many different applications & industries.

Researching what is effective in the field is very important in developing the range of cutting-edge technology that Trimble’s Lifting Solutions Division carries today.

In order to better serve the global market, we have products available in English, French, Spanish & Portuguese.
Contact Us

AMERICAS
TLS_Americas@trimble.com

USA
9633 Zaka Road
Houston, TX 77064 USA
Toll Free: +1 (888) 819-4355
Toll Free Fax: +1 (888) 238-4099
Tel: +1 (281) 664-1330
Fax: +1 (281) 664-1390

EUROPE | MIDDLE EAST | AFRICA
TLS_EMEA@trimble.com

EUROPE – UK – AFRICA
Tel: +44 (0) 7720592160

MIDDLE EAST – UAE
Tel: +971-50-4551721

AUSTRALIA | NEW ZEALAND | ASIA PACIFIC
TLS_ANZAPAC@trimble.com

AUSTRALIA
32 West Thebarton Road
Thebarton, SA 5031, Australia
Tel: +61 (0) 8 8238-3500
Fax: +61 (0) 8 8352-1684

WORLDWIDE TECHNICAL SUPPORT
Available 24 hours a day, 7 days a week
(by phone or email):
+1 (281) 664-1330
TLS_TechSupport@trimble.com

www.trimble.com/liftingsolutions