SITE TECHNOLOGY

Construction Technology for Heavy and Highway Contractors

Trimble Authorized Dealer

CAT Connected Worksite Solutions

Your Construction Technology Provider

SITECH®

SITECH®

YOUR PRODUCTIVITY. MAXIMIZED.

To be competitive today you need both high productivity and a high return on investment.

SITECH® is the leading distribution network for the most reliable, rugged and complete portfolio of construction technology systems available to the heavy and highway contractor. The experienced construction professionals at your SITECH dealership will advise you on the right technology for your job and provide you with local customer service, personalized training and technical support.

The team at your SITECH dealership knows how to apply innovative construction technology to effectively solve your biggest construction challenges. They will guide you in leveraging Trimble® and Cat® machine control systems for your entire fleet of heavy equipment, along with Trimble's complete portfolio of Connected Site™ solutions—Site Positioning Systems, Construction Asset Management Services, software and powerful wireless and internet-based infrastructure.

These solutions improve productivity by allowing seamless information flow between the office and jobsite. Design updates and progress reports can be sent back and forth through wireless data transfer in real time—eliminating delays and rework associated with using outdated information.

With the addition of Trimble's site-wide solutions to your heavy and highway projects, you're in a stronger, more competitive position. You'll experience new levels of productivity that will enable you to earn the bid and be profitable, project after project.

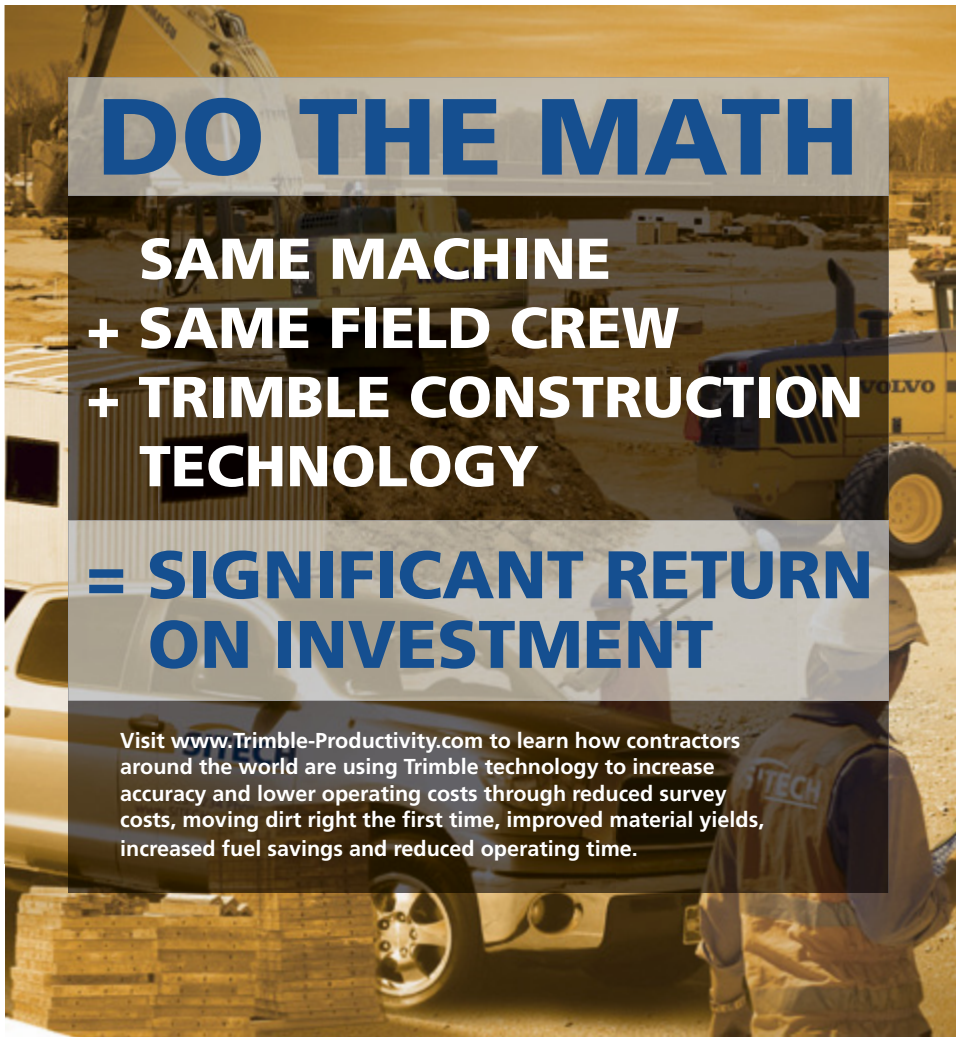
CONNECTING THE FIELD TO THE OFFICE

SITE POSITIONING SYSTEMS

Developed specifically for the needs of heavy and highway contractors, Trimble Site Positioning Systems simplify site operations, increase efficiency in the field and minimize downtime at every stage of the project. The Trimble Connected Site leverages real-time, two-way data flow between the office and field. Field crews and supervisors can eliminate trips back to the office to retrieve the latest design and work order data, and to report back field measurement results—streamlining the process, reducing downtime and improving productivity.

MACHINE CONTROL SOLUTIONS

Trimble and Cat Machine Control Systems are the most advanced grading technologies available. Leveraging design surfaces, grades and alignments inside the cab, operators can grade more accurately, reduce material overages and significantly improve productivity. Real-time, two-way wireless data creates a "live" link between the machines and office. Up-to-date design information is sent to the cab, eliminating travel time and reducing errors associated with using incorrect or out-of-date models. Additionally, equipment managers can retrieve as-graded and compaction data from the machines to monitor site production volumes and compaction performance.



CONSTRUCTION TECHNOLOGY FOR HEAVY AND HIGHWAY CONTRACTORS

THE CONNECTED JOBSITE

ASSET AND FLEET MANAGEMENT SOLUTIONS

Trimble and Cat asset and fleet management solutions integrate GPS technology, wireless data communication and internet connectivity to link assets, jobsites and maps in real time into a comprehensive view. Contractors can see the status of each piece of equipment on and off of their construction sites—live in the office—to monitor system events, diagnostic codes, and other machine health indicators and to report equipment cycle times, maintenance status, productivity, utilization, run time hours and idle-time hours. These solutions enable contractors to maximize and optimize their equipment fleet and improve their operations by lowering costs, improving project efficiency and reducing project risk.

TRIMBLE CONNECTED COMMUNITY

As the information management backbone of the Trimble Connected Site portfolio of construction solutions, the Trimble Connected Community allows contractors to build information portals, share information and collaborate between head office management, site office teams, field crews, subcontractors, suppliers, engineers, clients and partners on a project. All connected site data for site positioning, machine control and asset management is available in one secure, web-enabled tool. And, with real-time internet connectivity supervisors can use the Trimble Tablet in the field to access the Trimble Connected Community to create unprecedented efficiencies on the jobsite.

SITECH

MACHINE CONTROL TECHNOLOGY

Trimble and Caterpillar® have co-developed the most robust portfolio of machine control and guidance systems in the industry. These systems leverage our shared expertise in machine control and guidance technologies, Trimble's expertise in data management, software, positioning and jobsite infrastructure and Caterpillar's expertise in heavy equipment in the construction industry. Cat AccuGrade™ and Trimble Grade Control Systems have been designed to be fully compatible at the site level—utilizing the same data structure and format, the same user interface in cab and in the office and the same GNSS and Total Station-based site infrastructure.

TRIMBLE READY

Trimble has worked with all leading machine manufacturers to reduce system installation time and effort of Trimble machine control technology onto the machine. Trimble Ready™ machines come pre-plumbed and with brackets for the Trimble components. Today, a number of machine manufacturers have Trimble Ready solutions for easy installation and cross-machine type and brand portability, allowing for a maximized utilization of the technology across your fleet as well as maximizing your return on the investment. Ask your local machine manufacturer dealer if the Trimble Ready option is available for your new machine.

CAT ACCUGRADE

Caterpillar is the first and only heavy equipment manufacturer with a machine control and guidance solution that is integrated throughout the product line. The Cat AccuGrade system has been designed in conjunction with the Cat machines' electro-hydraulic systems for maximum performance and response on a Cat machine. Many Cat machines are Grade Control Ready as standard, which simplifies system installation and optimizes reliability. Caterpillar and Cat dealers have partnerships with Trimble's SITECH dealerships to provide site wide construction technology for a breadth of jobsite needs, both in the office and in the field. Work with your local Cat and SITECH dealerships to ensure your Cat machine is leveraging machine control technology.

2D ENTRY LEVEL MACHINE CONTROL SYSTEMS

Trimble and Cat entry level 2D machine control systems are fully scalable and can be configured for just about any machine. They are ideal for smaller projects from initial site prep through to the finished grading and paving, and leverage a range of fully portable components. All components are easy to move from machine-to-machine, easy to use, quick to set up and extremely durable to ensure the highest uptime and longest life possible in jobsite conditions. Additionally these systems can be operated in manual or auto mode; in auto mode the blade is automatically moved to the correct position.

3D MACHINE CONTROL SYSTEMS

Trimble and Cat 3D machine control systems are the most versatile grading technologies available and can be used on a wide range of machine types including excavators, dozers, motor graders, compactors, milling machines, trimmers, pavers and more. By putting design surfaces, grades and alignments inside the cab, the system gives operators unprecedented control over grading, excavating, compaction and paving applications, significantly reducing material overages and dramatically improving productivity and profitability. The 3D systems can be operated in manual or auto mode and leverage a range of components that are fully portable and can be easily moved from machine to machine.

CONSTRUCTION TECHNOLOGY FOR HEAVY AND HIGHWAY CONTRACTORS

MACHINE CONTROL SYSTEMS

FULLY SCALABLE

Only our machine control is flexible enough to let you equip your entire fleet—excavators, dozers, scrapers, graders, trimmers, milling machines, compactors, pavers and more—with fully upgradeable technology. Start where you need to start and add as you need to add. Sonic, angle sensors, laser, GNSS, total station ... select the best option for the machine and application.

	Configuration	Target Machines	Description	Key Components
2D MACHINE CONTROL SYSTEMS	SINGLE ELEVATION	dozers graders	Single control system that uses a laser receiver to control the lift of the machine blade for flat work and finished grading	Laser Laser receiver Control box
	DUAL ELEVATION, OR ELEVATION AND BLADE SLOPE CONTROL	dozers graders	Dual control system that controls both the lift and tilt of the machine blade for flat and slopework and finished grading	Laser 2 Laser receiver -or- Laser receiver Slope sensor Control box
	CROSS-SLOPE CONTROL	graders	Cross-slope control system to be used on motor graders for fine grading work for road maintenance, ditches and slope work	2 angle sensors Rotation sensor Control box
	CROSS-SLOPE AND ELEVATION CONTROL	graders	Highly flexible cross-slope and elevation control system for fine grading work with tight tolerances for road maintenance and construction, embankments, flat and slope work	2 angle sensors Rotation sensor Laser receiver -or- Sonic tracer Control box
	DEPTH, SLOPE, AND ELEVATION	excavators	Highly flexible system for excavation, trenching, grading and profile work	Angle sensors Laser catcher Control box
	GRADE AND SLOPE CONTROL	asphalt pavers	Grade and slope control system for paving of base material and asphalt	Sonic tracer Sonic averaging beam Contact sensor Slope sensor Control box
3D MACHINE CONTROL SYSTEMS	SINGLE GNSS	dozers graders scrapers excavators	Cost effective, full 3D control system that measures the position and slope of the blade and compares that to design data for rough grading and mass excavation on complex design surfaces	Angle and rotation sensors Single Smart GNSS Antenna Control box Rugged on-machine radio
	DUAL GNSS	dozers graders scrapers excavators	Full 3D control system that measures the exact position, cross slope and heading of the blade, bucket, drum for rough grading and mass excavation on steep slopes and complex design surfaces	Dual Smart GNSS Antennas Control box Rugged on-machine radio
	SINGLE OR DUAL GNSS	soil compactors	Continuous compaction control and documentation for Soil Compaction with real-time material compaction mapping and detection	Single or dual Smart GNSS Antenna(s) Compaction sensor Control box Rugged on-machine radio
	SINGLE OR DUAL GNSS WITH LASER AUGMENTATION	dozers graders	Single and dual GNSS systems enhanced with laser augmentation to improve vertical accuracy for high accuracy guidance to complex design surfaces such as super-elevation grading for rough through finished grade work	Single or dual Smart GNSS Antenna(s) Laser receiver Control box Rugged on-machine radio
	UNIVERSAL TOTAL STATION	dozers graders excavators soil compactors	Total station based system for applications requiring extreme accuracy for lift and layer control, material monitoring, or for jobs where GNSS is not the ideal solution because of overhead obstructions	Single on-machine active target Control box Rugged on-machine radio Universal Total Station
	UNIVERSAL TOTAL STATION	asphalt pavers milling machines trimmers	Total station based systems for high accuracy paving, milling and trimming without stringlines	Single on-machine active target Control box Rugged on-machine radio Universal Total Station

SITECH

TRIMBLE SITE POSITIONING SYSTEMS

The productivity of Trimble and Cat machine control systems can be optimized by using Trimble Site Positioning Systems and powerful Trimble construction software. Together, they achieve the next level in construction productivity—Trimble Connected Site solutions.

Using streamlined workflows and wireless data transfer, design updates and progress reports can flow between field and office in real time, maximizing machine and personnel productivity. Trimble Site Positioning Systems give contractors the flexibility to complete any task and the ability to reduce downtime by quickly resolving problems on site.

Use them for:

- Heavy and highway construction, site preparation, landfill, waste disposal and mining
- Measuring, tracking, reporting, validating, inspecting and controlling workflows from receipt of initial designs to project completion

Connecting Site Positioning Systems

GNSS SMART SYSTEMS

The Trimble GNSS Smart Antennas are the simple solution to all your site measurement and stakeout applications. These high-accuracy smart antennas track positioning information from GPS, GLONASS and Galileo satellite constellations. They use satellite signals to compute exact locations and give contractors an easy-to-use, wide area measurement system for a variety of site preparation and grade checking applications. The Trimble GNSS Smart Antennas can be used as either a rover for site measurement and stakeout, or as a base station for site measurement and machine control operations. And because the GNSS receiver, GNSS antenna, radio and battery are integrated into one housing, you don't have to deal with cables and multiple components.

TOTAL STATIONS – TOTAL PRODUCTIVITY

Trimble offers a full range of high accuracy total stations.

The robotic Universal Total Stations come equipped with the industry's fastest servos, ensuring accurate high speed tracking of the target, making them ideal for machine control and site positioning. They include 3Hz scanning capabilities for the rapid scanning of surfaces such as deep cuts, rock faces and stockpiles in dangerous or inaccessible locations.

Trimble also offers entry level total stations that are a cost-effective alternative for site measurement and stakeout. With an operating range of 500 meters, they are ideal for smaller site operations and work on structures such as bridges or culverts.

CONSTRUCTION TECHNOLOGY FOR HEAVY AND HIGHWAY CONTRACTORS

SITE POSITIONING SYSTEMS

Connecting Your Jobsites

Connecting Machine Control Systems

CONSTRUCTION FIELD SOFTWARE

The Trimble Site Controller Software is designed for site, highway, landfill, waste disposal and mining applications, and runs on Trimble handheld controllers, including the Trimble Tablet.

The software simplifies operations, increases your efficiency in the field and minimizes downtime. You can perform initial site measurement and verification, topo site or material stockpiles and compute volumes, stake out points and carry out as-built site measurements. Field crews can perform initial site measurements, topos, compute volumes, stakeout points and do as-builts. Supervisors can monitor, manage field crews and inspect the job.

DATA MANAGEMENT

Trimble Business Center – Heavy Construction Edition (HCE) allows different contractor professionals to work with the same design information and data standards. Estimators use Trimble Business Center – HCE for take-off. Data managers use it to automatically transfer data between the office and the supervisors, crews and machine operators in the field. They can organize and track all site measurements, and manage and synchronize files for stakeout and machine control operations for multiple crews and machines on multiple sites. Supervisors use it to view rich information from ongoing operations and reconnaissance and as-built trips.

BETTER DATA – BETTER FLOW

Preparation and management of data for multiple heavy and highway construction projects is easy with Trimble Business Center - Heavy Construction Edition. And with Trimble Connected Site solutions, you automatically get updated design data to the field now— not later today, tomorrow or next week. Additionally recorded data from work orders can be exported to high-quality reports or to Microsoft® Excel® spreadsheet software.

Two-way data improves turnaround time for design changes and problem solving, allowing contractors to realize productivity gains throughout all phases of the job.

Your Construction Technology Provider

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