



COMPLETE ENVIRONMENTAL SOLUTIONS

# OVERCOMING THE CHALLENGES

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In the environmental and waste industry, business profitability is driven by minimizing and maximizing resource efficiency. Safety and industry compliance are also critical elements that present challenges to this segment. With Trimble® technology, your business can remain successful because we can help you ensure that waste collection and disposal processes are highly productive.

Trimble's environmental solutions cover all the needs that take place in every step of the waste management process. Our portfolio provides complete positioning solutions and services, starting at the waste collection, transportation through recycling and disposal at modern sanitary landfills or waste-to-energy facilities.

### THE TRIMBLE EXPERIENCE: THINKING OUTSIDE THE BOX

Our company has more than 15 business areas developing technologies to help you overcome the challenges of the waste and environmental industry. We offer the most complete portfolio and expertise in positively transforming operational processes through technology.

At Trimble, we link positioning to efficiency. As a leading provider of advanced positioning solutions that maximize productivity and enhance profitability, we integrate a wide range of positioning technologies including GPS, laser, optical, and inertial technologies with application software, wireless communications, and services to provide complete commercial solutions for the waste management environment. Our integrated solutions allow customers to collect, manage, and analyze complex information faster and easier, making them more productive, efficient, and profitable.

In the past three decades, with products used in over 100 countries around the world, Trimble has created unique positioning solutions that help customers grow their business. It can do the same for the environmental industry.





## POSITIONING SOLUTIONS AND SERVICES THAT INCREASE EFFICIENCY

Whether you want to map your fleet and mobile workforce, or optimize the process, Trimble has technology that contributes to the competence of the daily operation of your recycling facility, landfill or incineration plant. We offer pioneering positioning solutions to help you ensure that your environmental business is functional from beginning to end.



Trimble's positioning solutions benefit all phases of the waste process, offering a truly connected solution regardless of the waste stream.

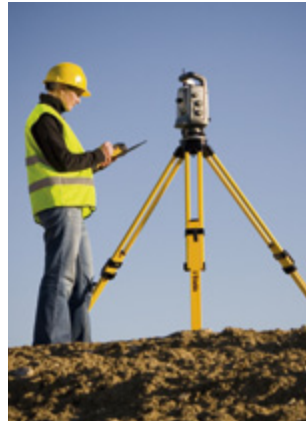


# TECHNOLOGY THAT FACILITATES PRODUCTIVITY

Just like in any type of business, waste management companies are continually seeking ways to increase profitability. The goal could be to improve field service, as well as field worker management.

Trimble's positioning solutions give environmental services companies the tools they need throughout the entire waste process:

1. Collection and transportation
2. Recycling
3. Landfill disposal
4. Incineration plants



## COLLECTION AND TRANSPORTATION

Trimble's Mobile Resource Management (MRM) and Trimble Utilities Field Solutions (TUFFS) can help you manage your mobile workforce's performance while reducing operational costs and increasing customer satisfaction. For example, you can instantly map vehicles in your residential, commercial, or roll-off fleet; find the nearest vehicle to a job, dispatch text messages to workers, log work hours or view and print detailed reports. Trimble offers scalable solutions that suit your need whether you are a privately or publicly operated business in the waste industry.



## GAIN A COMPETITIVE ADVANTAGE

For Material Recovery Facilities (MRF), Recycling Centers, and Composting Sites, Trimble offers solutions to optimize the process of daily operations. To do so, we utilize the following positioning technology and software applications:

- **Trimble Grade Control Systems** for grading construction and material distribution on bigger composting sites.
- **Trimble Asset Management Solutions** help you effectively manage heavy machinery and portable asset data on site, or within recycling centers and MRF's.
- **Trimble Site Positioning Systems and Survey Solutions** allow for general stakeout/layout tasks and volume/surface surveys and calculations.
- **Trimble Scanning Solutions** help you capture accurate positioning data remotely in a quick, discrete manner, within MRF and recycling centers.
- **Trimble Mapping & GIS Solutions** for Geographic Information Systems' data and asset collection.
- **Trimble Imaging and Positioning Solutions** and rugged field computers for asset management on site.





## LANDFILL DISPOSAL

In order to accomplish an extended landfill lifecycle, operators and owners are faced with maximizing their airspace. In properly managing this issue, having the latest equipment and technology ensures that projects are planned and tasks are executed properly. Site and engineering managers need positioning solutions and services to assist them with grading applications, cell development, daily operation and landfill capping.

Assets such as ground water monitoring wells, landfill gas collection systems and leachate collection systems need to be maintained and operated accurately. Site personnel need to be able to perform simple survey tasks like stakeout, topo, and as-build checks.

Trimble provides solutions that increase productivity and reduce operating expenses during the construction phase and daily operation:

- **Trimble Grade Control Systems** for waste compaction, grading applications, final capping, cell construction and on site road construction on compactor, grader, and track type tractor and excavator.
- **Trimble Asset Management Solutions** for effective management of heavy machinery and portable asset data on site.
- **Trimble Site Positioning Systems and Survey Solutions** for general stakeout/layout tasks on landfill gas pipes and leachate collection system as well as cell certification.
- **Trimble Scanning Solutions** to monitor landfill slopes and gas-pipe systems (3D model).
- **Trimble Mapping & GIS Solutions** for GIS data- and asset collection such as gas-wells and other mobile applications.





# TECHNOLOGY THAT FACILITATES PRODUCTIVITY

## INCINERATION PLANTS

Modern Waste to Energy facilities and established incineration plants are often complex systems that require managers, operators and consultants to work on different processes throughout the entire plant lifecycle. Trimble solutions ensure accurate positioning information from plant design, commissioning, to plant operation and management plus decommissioning at the end of the lifecycle. All data is captured discretely and quickly, resulting in reduced rework and increased productivity. Trimble offers the following solutions to cover those processes:



- **Trimble Power, Process and Plant Scanning Solutions** for operation and maintenance, asset management, training and simulation in 3D, plus detailed design for both feasibility and planning or plant retrofitting.
- **Trimble Survey Solutions and Site Positioning Systems** to capture existing site conditions for basic design, planning, establishing dimensional control and environmental reviews.
- **Trimble Imaging and Positioning Solutions** and rugged field computers for asset management on site.

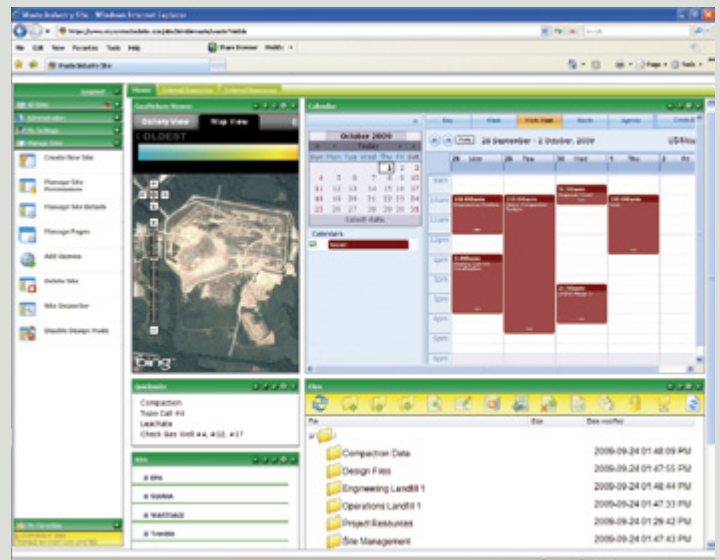
## THE WASTE-TO-ENERGY ADVANTAGE

In the past three decades, the green movement has become more and more prevalent in consumers' lives. The community expects recycling programs to overcome an increasing number of landfill sites. From concept to completion, Trimble offers a complete set of solutions for modern Waste-to-Energy facilities, Waste-and-Environmental processes, supporting businesses operating in the environmental industry to achieve their green goals.

### DATA MANAGEMENT

Being able to manage and share information such as project data, design files, reports and plans in one central location is one of the major obstacles in the environmental industry. We offer a service and information management system, the Trimble Connected Community that enables waste and environmental organizations to connect sites and people in real-time, throughout the entire "cradle-to-grave" waste

process. This data management solution results in an increased efficiency in the process and site control continuum.





## GLOBAL SERVICES

### PROFESSIONAL SERVICES AND CONSULTING

Trimble Navigation, as well as its worldwide network of Distribution Partners and Service Providers, can assist you in a variety of technology and consulting service offerings. Our services include process analysis, design, positioning technology integration and process transformation. By combining our key capabilities with our customers' needs, Trimble is able to transform existing processes thanks to the technology we can apply in the environmental services industry.

### TRAINING, SERVICE AND SUPPORT

Trimble's Global Services Division has Training, Support, Services and Refurbishment programs dedicated to lower our customers' operational costs, increasing productivity and optimizing performance. The components of our Trimble Protected program contribute to your continuous business operations. Our Training Certification programs,



blended learning training portfolio and support capabilities leverage tools and technology such as the Trimble Knowledge Network and Trimble® Assistant Software.

### THE TRIMBLE CONNECTED COMMUNITY OFFERS:

- Secure data storage in one location for all organizations, including project information.
- Visibility and transparency so you can view every aspect of your site and process operation.
- Additional office management tools such as calendar, blogs, file management, GeoPicture Viewer, and more. These tools ensure effective project and site management to boost productivity while reducing redundancy.

### ENVIRONMENTAL EQUIPMENT

In the rugged environmental services world, there is no room for an ordinary data collector. Trimble provides robust, versatile, Windows Mobile® data collectors with high performance for your daily job and your data collection application. Furthermore, industry-specific software applications enhance efficiency on the job, whether you work in the waste, water, wastewater, or remediation sector.



For more information about any of the products and solutions mentioned in this brochure, contact:  
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