

Currently only available  
in South Africa.

## WASTE SPREADER POSITIONING SYSTEM



## Introduction

The WSPS is a collaborative product originating from a partnership between Reutech Mining and Stone Three Venture Technology. This product was designed and implemented with the purpose of monitoring the waste spreader's position on the waste heap.

### Operation

- The WSPS provides the waste spreader with the ability to move around safely on the waste heap while distributing waste material.
- The expanding waste heap is monitored using a terrestrial 3D laser scanner on a self-sufficient semi-mobile platform.
- The 3D scan data is transferred to a central server in the server room via a Wi-Fi Network.
- The 3D data is used to calculate a safety boundary on the top of the waste heap.
- A high accuracy differential GPS located on the waste spreader determines if it is located within the safety boundary.
- An audio visual alarm is triggered if the waste spreader moves outside the safety boundary into the potentially unstable section near the edge of the waste heap.
- A standalone screen in the control room displays the current position and safety state of the waste spreader in real-time.
- Data is stored to provide an accountable history.
- All aspects and specifications of the system are fully customizable for the individual requirements of the client.
- The system is capable of integrating with various other systems (old and new).
- The system has the capability to remotely monitor and control all hardware and software components.

# Specifications

## Laser Scanner Bundle

- High Speed Terrestrial Laser Scanner
- Distance Range: up to 4000m
- Field of view: 100° (el) x 360° (az) – 5mm accuracy

## Solar Power System

- 3 x 220W Sunmodules 220Watt peak polycrystalline PV panels coupled in series. Adjustable for maximum sun exposure
- Bracket fitted to the container
- 4 x Trojan deep cycle batteries. 6V 435Ahour coupled in series in order to achieve a battery pack of 24V 435Ahour
- 24V DC provided to all electronic components
- OUTBACK Mate interface controller for remote monitoring of the power pack
- Can be folded into secure position for transport

## Power Consumption

- PC System – 50 W Continuous
- Laser Scanner – 100W operating 10 minutes in every hour (24/7)
- Current configuration can provide enough capacity for 72 hours with 0% sunshine
- Interface controller fitted with RS232 port provided
- Circuit breakers, fuses and wiring provided
- Fan and dust filter
- Optional: Additional Cooling

## Container

- Isolated Container (non-standard ISO) 3m(L) x 2.4m(W) x 2.5m (H)
- Thermally isolated
- Interior and Exterior - 0.6mm white Chromadeck skins with 80mm of insulation in between.
- 2mm galvanised sheet installed behind outer skin of isolation panel for added security
- Lockable door with tamper switch
- All other fittings are anodized aluminium or galvanised steel
- Optional – infra red sensors outside container for security
- Ladder for access to panels
- 6 base legs – adjustable with 75mm to adjust container to horizontal position
- Latches for anchoring container at deployment site
- Container can be moved by crane or forklift
- Geotechnical accuracy can be insured by placing the container over a stable earth mount pillar

## Software

- Fully Customized to suit the unique customer requirements
- 3D Laser Mapping Software customised for Waste Spreader Control System Application

## Electronics Enclosure

- All electronics enclosed
- Cooling optional
- Fitted with van and dust filter

## Connectivity

- Full remote system connectivity via WiFi network
- Remote monitoring via 3G for real-time detection

## Optional Spares

- Solar Panel
- Non-reflective glass for laser scanner
- Additional cables