Highly commended

SOIL SOLUTIONS INTERNATIONAL

Soil Solutions is on a journey to make a difference through the implementation of alternative innovative technologies and methodologies to achieve results that provide sustainability and allow mining companies to promote growth, reduce their environmental impact, and improve production and operational efficiencies while reducing their operational and capital expenditure.

The company is achieving this through the introduction of value engineered solutions that provide improved surfaces for mine haul roads, access roads, in-plant roads, pit roads, underground roads and airstrips along with structural integrity to stockpile pads and tailings storage facilities.

Soil Solutions works with our mining clients to implement an improved road design and maintenance programme that directly results in a reduced cost per ton of material hauled in order to protect the asset during its design life with lower construction, operational and maintenance expenses.

The structural, functional and maintenance aspects in the design of a road must be taken into consideration in order to provide a road surface which can carry the imposed loads over its design life without the need for excessive maintenance – providing safer operational and driving conditions and resulting in economically optimal mining operations and conditions.

Soil Solutions develops road improvement solutions for mining operations that take into consideration current haul road design requirements including optimal wearing course material selection, maximum and sustained gradients, elevation rates, horizontal and vertical alignments, road widths, cross fall, drainage provisions, rolling resistance, parallel berms, stopping distances and dust mitigation techniques.

An improved road surface using methodology developed by Soil Solutions completely eliminates the requirement for any further remedial works to the surface including grading, compacting and watering for dust mitigation purposes. Only an annual maintenance application is required at a reduced rate and to remove spillage from overloaded haul trucks as and when needed.

The company's "hands-on" approach, from site evaluation to the conclusion of construction, enables us to design tailor-made solutions in sync with the clients' requirements.

One such example is when Soil Solutions provided their alternative technology to BG Bolivia for the improvement of the La Vertiente Airstrip.

The application methodology used for the improvement of the airstrip resulted in reduced maintenance costs, safer landing and take-off conditions, reduced decommissioning costs and complete environmental compliance.

In fact there was an 85% reduction in operating expenditure costs related to airstrip maintenance, the elimination of the requirement to invest upwards of US$1.5 million in paving the airstrip to allow for jet engine operations and reduced carbon emissions related to maintenance.

The improved airstrip surface now allows for the safe operation of jet engine aircraft on a gravel airstrip or runway as if it were paved.

Notable nominations

- **Munton Vibratory Technology** and its screening technology
- **MMD Mineral Sizing Africa** and its in-pit crushing and conveying systems for the successful supply and implementation of four semi-mobile in-pit crushing systems as well as a 500 t transporter to relocate each tip station on a mine
- **Exxaro** and retired chief engineer **Vincente Alvarado** who was instrumental in the design and development of the electric dump truck trolley assist technology, mainly utilised at Exxaro's Grootegeluk coal mine
- **Dints international** – an innovative export credit agency backed financier providing seamless maintenance management and significant stock cost efficiencies for Gold Fields Ghana