



Sleeper Layer

A transformative approach
to global track renewals

The Sleeper Layer delivers a new approach to the positioning of sleepers in track construction and renewals operations.

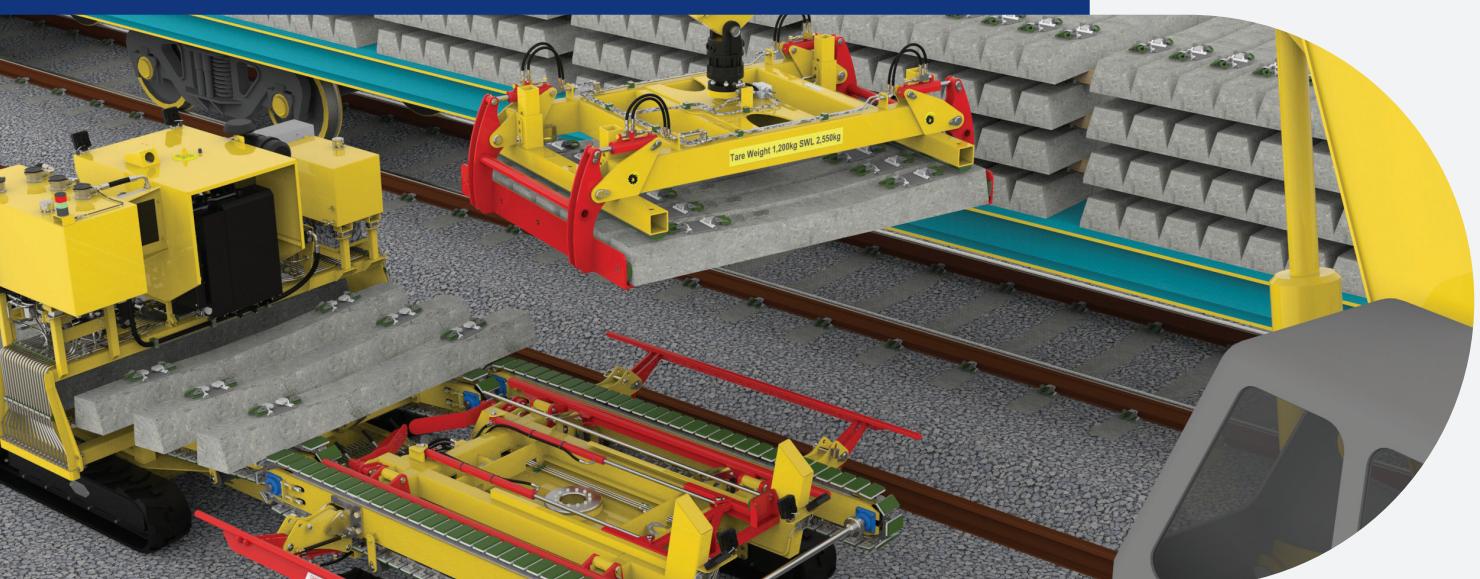
Self propelled and semi-autonomous in operation, this unique machine offers high output and high precision, requiring only 1 operator and delivering up to 1000 sleepers per hour, onto a prepared track bed.

The sleeper spacing is controlled by a shaft encoder on a wheel running on the track centre line, which can be adjusted to any desired setting via a touch screen control panel. The machine is powered by a 55kW JCB diesel engine built to the latest emissions specifications. The plc control maximises efficiency by monitoring the engine parameters and hydraulic system performance, minimising fuel use.

A delivery grab is used to load up to 7 sleepers at a time to the front of the machine. Once in position, sleepers are squared, aligned and fed into the delivery mechanism where they are precisely positioned onto the track bed before being released.

Benefits

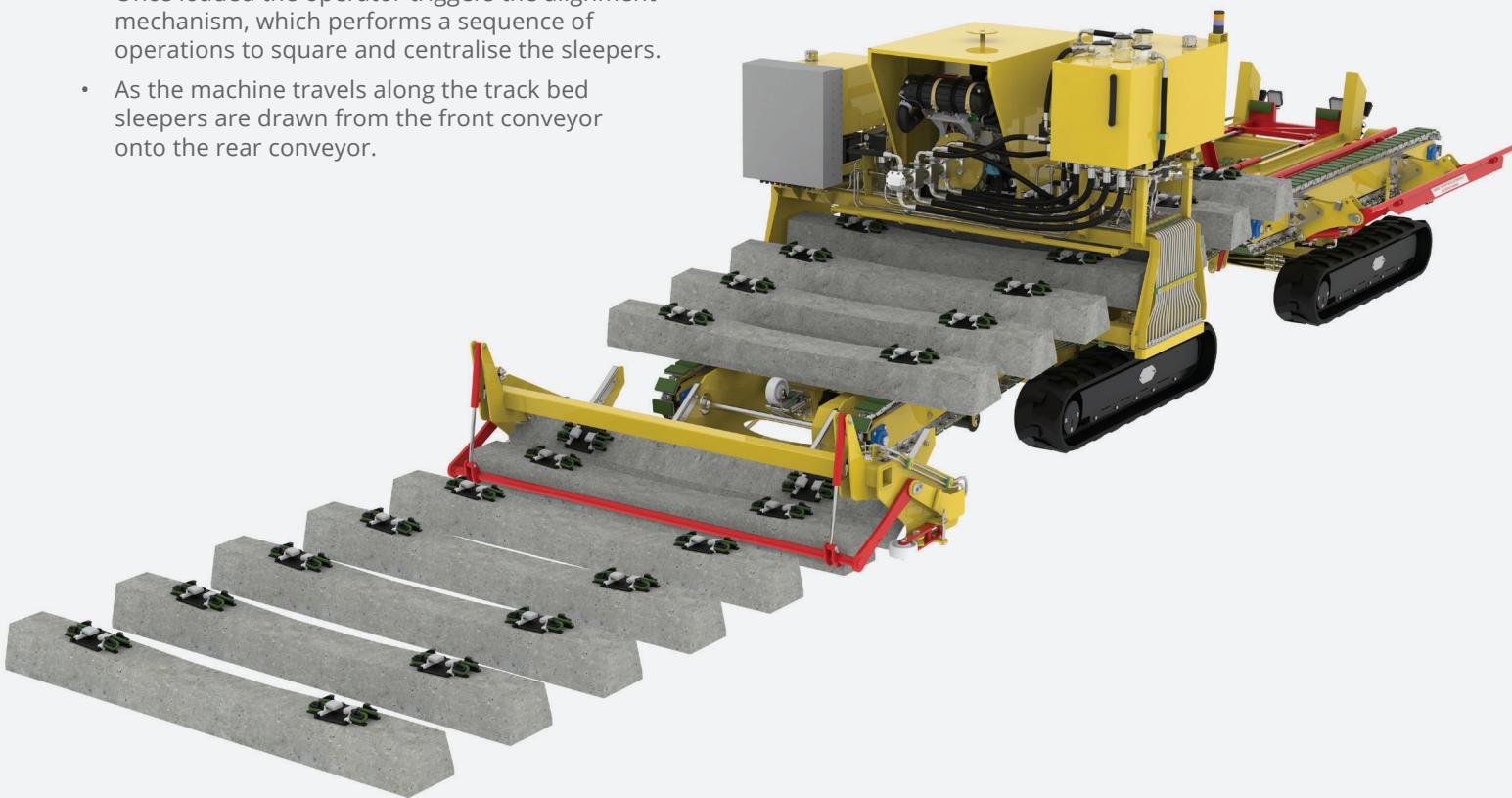
- High output, high precision sleeper placement
- Reduced manpower requirement
- Minimal training requirements
- No restrictions on locations
- Semi-autonomous operation
- Deliverable by road
- Low capital & running costs
- Reduced exposure to risk





Key Features

- The machine can be quickly and easily split into two sections for ease of transport to site.
- The front section of the machine comprises the sleeper loading bay, with dual action alignment system and powered caterpillar tracks with turntable steering.
- The rear section of the machine comprises the power module, delivery conveyor, sleeper release system and the plc based control system.
- The conveyor and delivery system are raised allowing the machine to travel independently.
- Up to seven sleepers at a time are loaded onto the front section using a simple grab.
- Once loaded the operator triggers the alignment mechanism, which performs a sequence of operations to square and centralise the sleepers.
- As the machine travels along the track bed sleepers are drawn from the front conveyor onto the rear conveyor.
- Sleepers are re-centralised at the rear of the machine and released at precise spacings onto the track bed.
- The distance between the sleepers is set using the control panel. Spacing can be specified in inches, mm or number of sleepers.
- Comprehensive work lighting provides clear illumination in the areas of safety around the machine keeping the operator safe.
- The machine can also be equipped with a Total Station or GNSS controlled auto steering system, offering even greater accuracy.



Technical Specifications

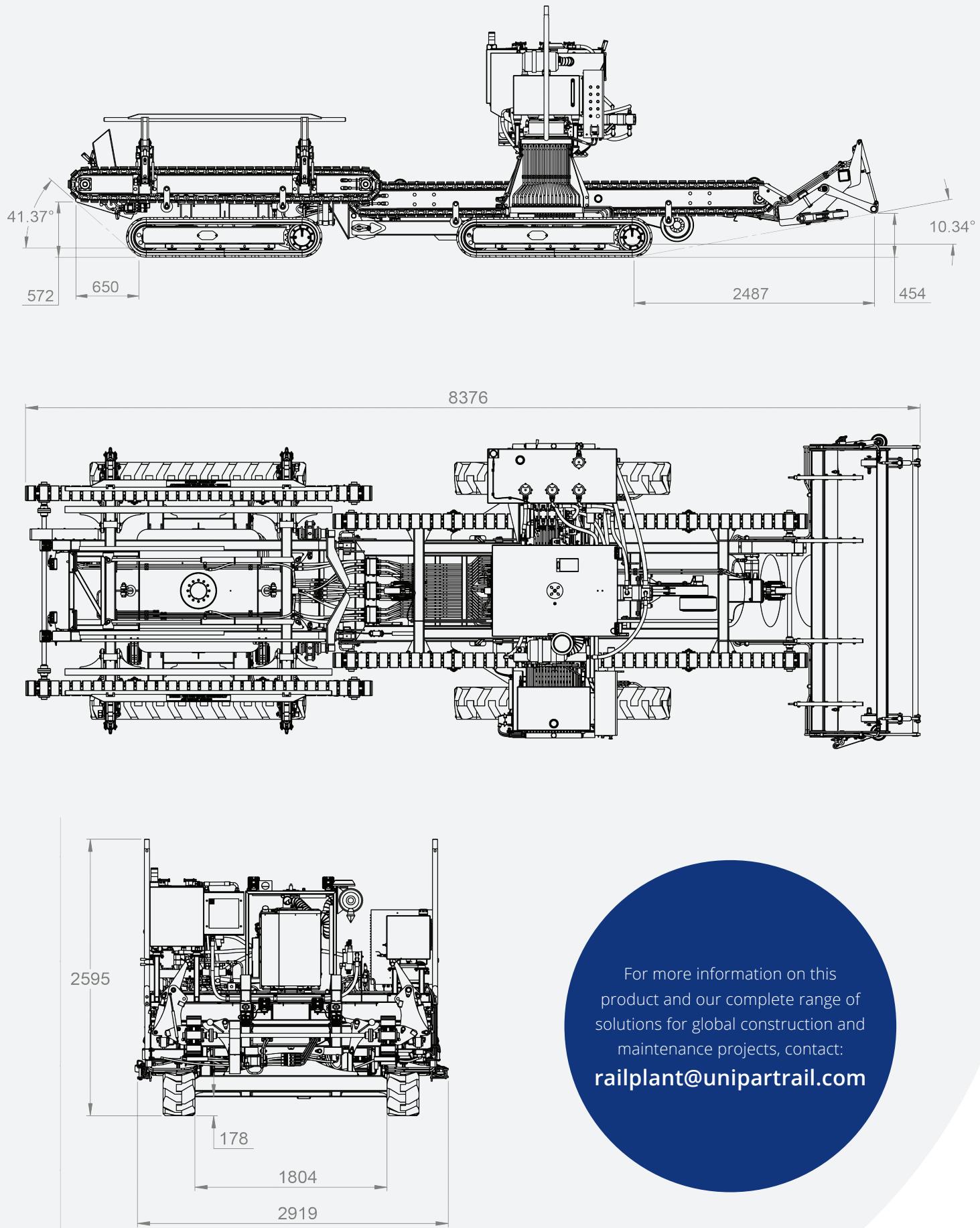
Specifications	
Tare Weight - Front section	2,895 kg / 6,37 lb
Tare Weight - Rear section	4,030 kg / 8,870 lb
Tare Weight - Total	6,925 kg / 15,228 lb
Transport Dimensions - Front Section (L x W x H)	3,246 x 2,680 x 1,480 mm / 128 x 105.5 x 58.3 in
Transport Dimensions - Rear Section (L x W x H)	5,470 x 2,919 x 2,595 mm / 215.5 x 115 x 102 in
Transport Dimensions - Complete Machine (L x W x H)	8,376 x 2,919 x 2,595 mm / 330 x 115 x 102 in
Max. Travel Speed (unladen)	2 km/h / 1.2 mph
Travel Speed (working)	725 m/h / 0.47 mph
Engine Power	55 kW / 73 hp
Fuel	Diesel
Hydraulic Fluid (std.)	ISO 32
Hydraulic System Pressure	120 Bar / 1,740 psi
Hydraulic System	4 separate systems each supplied by gear pump
Tracks	Rubber
Control System	Radio / manual control via plc
Spacing System Measurement Resolution	0.25 mm
Spacing System Adjustment	Via control panel
Spacing Units	in / mm / Sleepers per Length (60ft) / Sleepers per km
Electrical System	24V DC
Work Lights	6 x 24V LED
Operating Modes	Full manual / semi-autonomous (with optional auto steer)
Laying Rate	Up to 1,000 Sleepers per hour
Load Capacity	Up to 7 Sleepers per load
Maximum track bed cant	6 degrees

Operational Equipment

Auto Steering System - Trimble® Guidance System
Auto Steering System Input - Total Station / GNSS
In Service Remote Monitoring and Diagnostics
Sleeper Pack Grab
Rail Transport Trolleys
On and Off-Tracking Ramps
Pendant Controller - in lieu of radio controller
Horn - for warning of movement
Flashing Beacon
High Capacity Hydraulic Oil Cooler - in lieu of standard unit
Panolin Biodegradable Hydraulic Fluid - in lieu of standard ISO 32 fluid



Technical Drawings



For more information on this product and our complete range of solutions for global construction and maintenance projects, contact:
railplant@unipartrail.com

Contact us today to learn how we can help your business improve reliability, efficiency and safety in railway operations.

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