

TROLLEY SPECIFICATION

TECHNICAL	
Track Gauge	1410-1470 mm (international standard 1435 mm, other sizes like 1520, 1000 available upon request)
Odometer Type	Photoelectric counter for measurement method
Odometer Resolution	±5.0 mm
Odometer Error	< 0.5%
Gauge 0 Position Accuracy	±0.15 mm
Gauge Indicator Error	±0.30 mm
Gauge Measurement Repeatability	±0.15 mm
Superelevation 0 Position Accuracy	±0.15 mm
Superelevation Indicator Error	±0.30 mm
Superelevation Turn-around Error	±0.30 mm
Superelevation Measurement Repeatability	±0.20 mm
Linear Lateral Deviation	best up to 3 mm
ELECTRICAL	
Power Bank Unit	Lithium-ion battery, capacity 147 Wh
Power Supply	> 12 hours
ENVIRONMENTAL	
Operating Temperature	-10°C ~ 50°C
Humidity	80%, non-condensing
PHYSICAL	
Hardware Weight	32 kg (trolley only, excluding tablet and total station)
Packing Weight	72 kg (trolley with transportation case)
Packing Dimension	183 x 53 x 56 cm

SYSTEM COMPONENTS

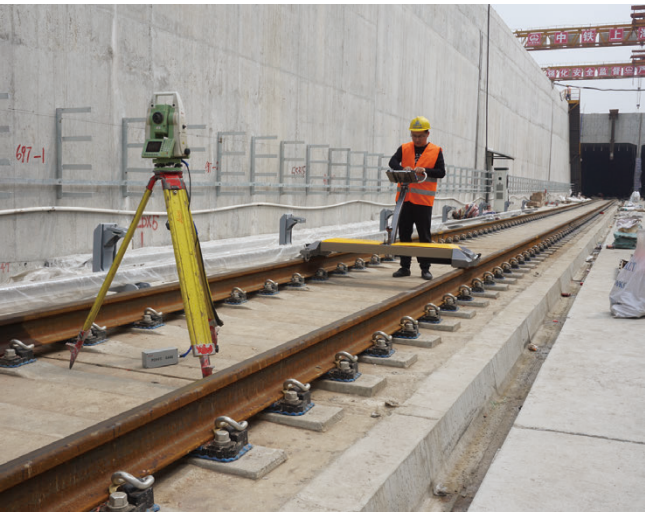
Trolley Hardware			
1	trolley main body	measuring wheel	x3
		sliding wheel	x3
		superelevation sensor	x1
		gauge sensor	x1
		yellow side cover	x2
		metal base frame	x1
		corner prism column	x1
		DPU (Data Processing Unit)	x1
2	push bar		1
3	corner prism		1
4	Y-shaped DLU cable		1
5	Y-shaped DPU cable		1
6	toughbook power supply cable		1
7	DPU short cable		1
8	converting cable		1
9	DLU(radio Data Link Unit)		1
10	DLU antenna		1
11	spiral magnet antenna		1
12	PBU(Power Bank Unit)		2
13	PBU charger		2
14	transportation case		1
Configured Software			
1	fieldwork software		1
	geometric data analysis software		1
	geometric data verification software		1
2	software dongle key		1
Fieldwork Partners			
1	PC Toughbook		1
2	PC charger		1
3	robotic total station		1



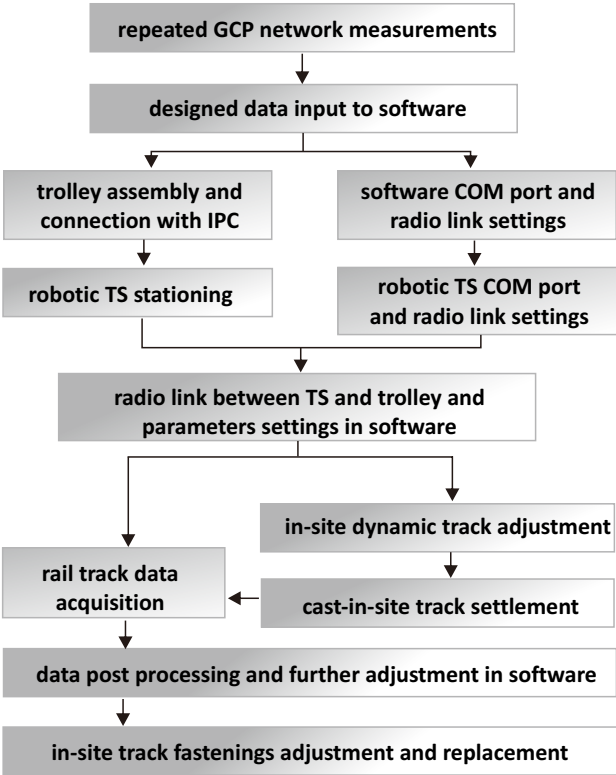
Track & Field Proven Technologies

BRIEF INTRODUCTION

In terms of end-use, rail transport is generally categorized into the following: high-speed railway, express railway, traditional railway, subway, and light rail. In contrast to road transport, where vehicles run on a prepared flat surface, rail vehicles are directionally guided by the tracks on which they run. However, running safety and ride comfort, the essential requirements of rail transporters and passengers, are specifically determined by rail track geometric conditions. The Track Geometry Measuring Trolley System MEASLLEY is made to deal with the ride-performance-based inner and outer track geometry quality.



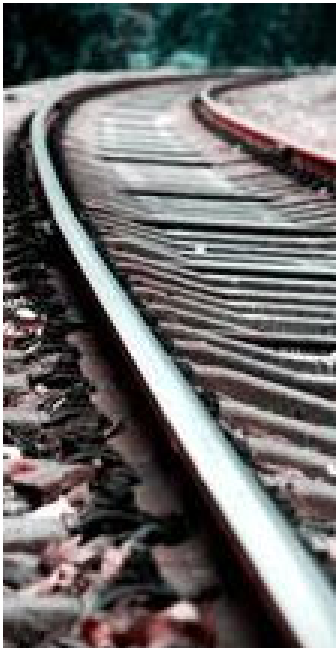
WORKFLOW CHART



APPLICATION RANGE

Project	high-speed rail, light rail, traditional rail, metro, tunnel refurbishment, industrial tracks, etc.
Object	ballastless track (cast-in-site track and slab track) or ballasted track
Stage	construction and maintenance

WORK PRINCIPLE



Gauge Measurement
Measure the inner minimum distance (16mm below the surface) between the 2 tracks with gauge sensor.

Superelevation Measurement
Compute the superelevation value based on horizontal tilting angle measured with horizontal sensor and earlier measured gauge result.

Overall Measurement
Measure the 3-dimensional coordinate of prism installed on trolley, and combine the calibrated XYZ geometry parameter, the orientation parameter, the measured horizontal tilting angle and the measured gauge value to compute the horizontal position and track elevation of the related mileage point. Then, compare the computed values with the originally designed data, and finely adjust the tracks according to the difference value.

SYSTEM ILLUSTRATION

1) Hardware (Trolley + IPC + TS)



2) Software (SmartRail)

Fieldwork Software SmartRail V3.2.0

Railway Design

Data Process

Project Mode

Report Export

Post Processing Software (for overall inspection at final stage)