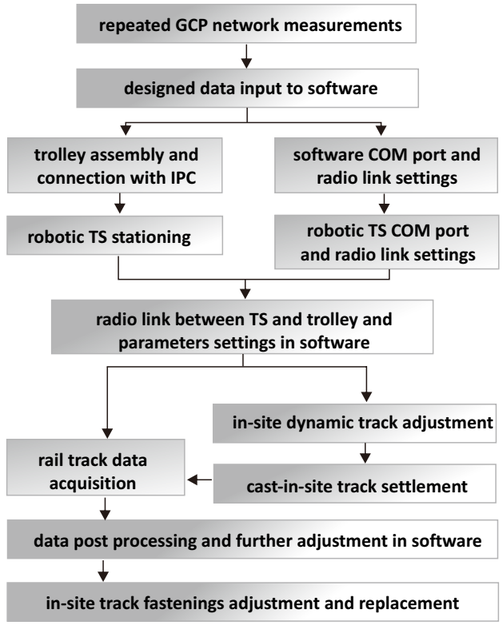
BRIEF INTRODUCTION

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

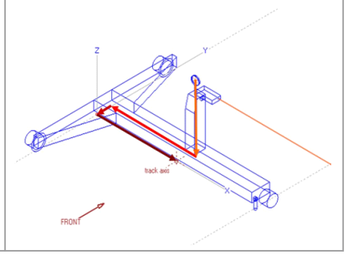
Project	high-speed rail, light rail, traditional rail, metro, tunnel refurbishment, industrial tracks, etc.
Object	ballastless track (cast-in-site track and slab track) or ballasted track
Stage	construction and maintenance

WORK PRINCIPLE

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

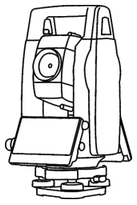
Superelevation Measurement
Compute the superelevation value based on horizontal tilting angle measured with horizontal sensor and earlier measured gauge result.

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.



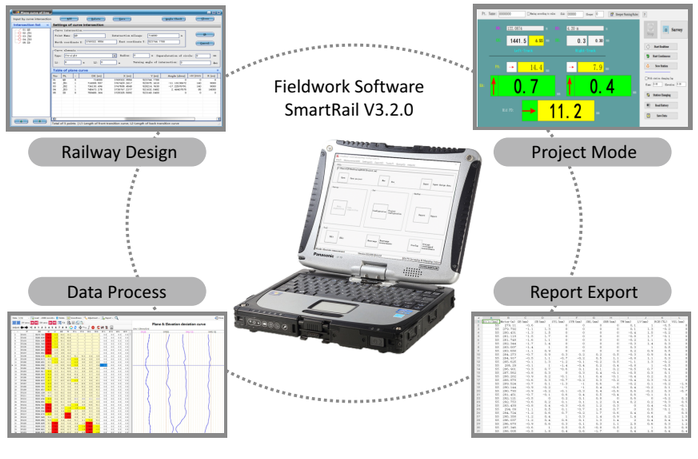
SYSTEM ILLUSTRATION

1) Hardware (Trolley + IPC + TS)



robotic total station

2) Software (SmartRail)



Post Processing Software
(for overall inspection at final stage)