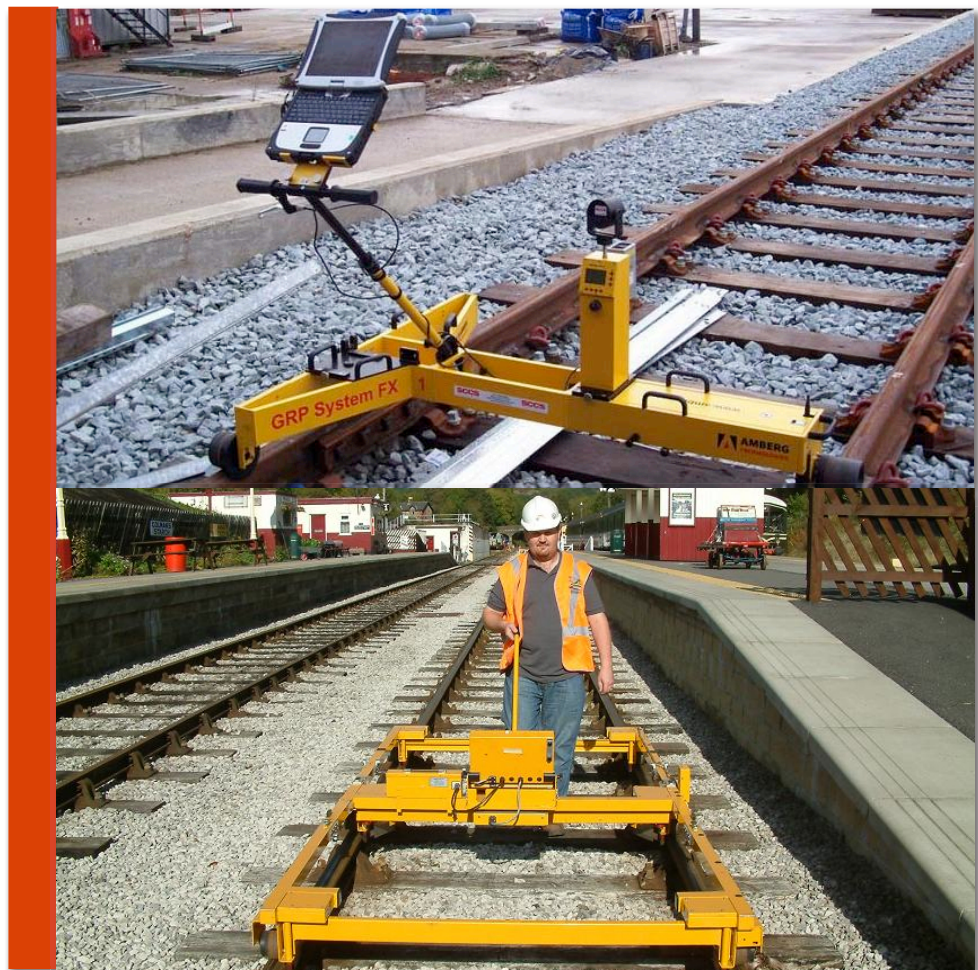




# Track Trolley & Versine Surveys



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## Track Trolley Surveys

We carry out track surveys using an Amberg/Leica FX3000 trolley.

The trolley is a compact unit being 1 metre long, and is easily lifted on/off track by one person. It works by surveying the position of the trolley, by way of a prism mounted on it

The fully waterproof laptop on the survey trolley controls the Leica total-station, simply by pressing one button, the instant measurement of the trolley position and all other variables, are recorded.

The software processes the data into a variety of formats including a spreadsheet report, detailing a vast array of information and variables. This also includes the calculation of versines, (both horizontally & vertically) for both rails & centre position.

The versine information is created by the software based on all the calculated information for the rail positions. The chord can be any length, and as the versine results are calculated after the survey takes place, the chord length can be changed and the report recreated in a matter of seconds.

The software can also produce on-screen graphs of each variable, for instant checking.

The trolley can be used in conjunction with the laser profiler to measure the position of trackside structure positions i.e. platform copers/conductor rails/live overhead cables.

As the laser readings are based on the trolley position, this provides 3D coordinates of each laser point. Using the profiler in automatic mode, a full cross-section can be quickly carried out, at any angular or distance interval.

A CAD drawing of each profile can be created in the .sc0 format as is frequently required by designers for tunnel/bridge/platform clearances.

The system can be used to survey tracks in comparison to a design, such as as-built surveys. The trolley can be used when tamping & the software can create a tamping file to suit individual tampers. We have carried out a large number of track trolley surveys throughout the length of the UK and into Europe. These range from individual coping stone surveys through to full pre-design surveys km's in length.



Link-up

V A T Registration No. GB 889 9268 30  
Company Registration Number 5890718

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## Versine Surveys

We operate a PTST (portable track survey trolley) manufactured by [www.consillia.co.uk](http://www.consillia.co.uk) specifically designed for measuring versines over a 3 metre chord, this trolley measures chainage/cant/gauge, left/right versine and twist over the chord. It is also fitted with side 'paddles' that measure the 'flange-way' gaps through S&C units, and can also be used to measure check rail gaps.

The trolley is simply pushed at walking pace and the measuring frequency can be set to record at any interval (down to every 50mm) to suit your requirements. It is easily possible to survey 3500m PER HOUR with readings at any intervals (specific points can be recorded) The data is stored onto a memory card as a csv file (which can then be used to create the report of choice), and is also excellently displayed as a line diagram on the trolley's computer screen. This allows real time results to be displayed and actions such as marking up twist areas/cant deficiencies etc to be carried out instantly.

This trolley is perfect for easily and quickly recording the variables of the track in very great detail. This can be ideal for proving the condition of the track before/after any construction work.

Where the construction work is taking place close to the track, there is a chance that the cant of the track could be affected. Using this trolley, instant results can be achieved/displayed very quickly, to show that the track is not moving.

Track Hand back Surveys - We can use the PTST (portable track survey trolley) to quickly & accurately carry out track hand back surveys, to replace the need for an engineer to pace out every 3 metres and note the cant/gauge, then calculate the twist values.

The trolley is pushed through the worksite & the values recorded at a given interval and the software instantly runs through every measurement to create the twist calculations. A twist fault record can also be produced detailing the exact positions of any twist faults. Parameters can be set to suit particular line & client standards and a very concise report can be created for the client.