TAS 2016 NEWS
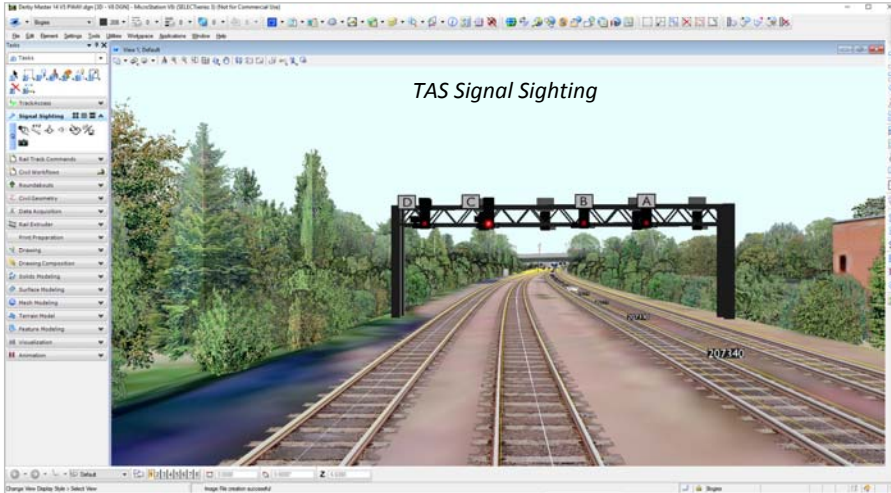## *LATEST NEWS & DEVELOPMENTS*

Track Access

TAS SIGNAL SIGHTING • HIGH QUALITY VIRTUAL MODELLING
TAS DRIVER TRAINING • TAS LASER POSITIONAL VIDEO SURVEY


TAS Signal Sighting

TAS SIGNAL SIGHTING

NEW – *High Quality Virtual Reality Model used for Signal Sighting on the Derby Resignalling Project.*
TAS provide a full signal sighting services including hardware, software and service team.

HIGH QUALITY VIRTUAL MODELLING

NEW – *High Quality Virtual Reality Model used on the London Bridge LL09 and HL07 projects and also in development for HL15 and HL17.*
TAS 3D modelling can be used in both Signal Sighting and Driver Training and includes High Quality surroundings.

DRIVER TRAINING

NEW – *TAS Driver training completed using VR for London Bridge and tracked signals and blurs for Western & Wales and East Notts Resignalling Scheme.*
TAS Driver Training uses both VR 3D Modelling and Cab-ride drivers eye view HD video together with a map and printed map book to produce a full DT package used by TOCs/FOCs.
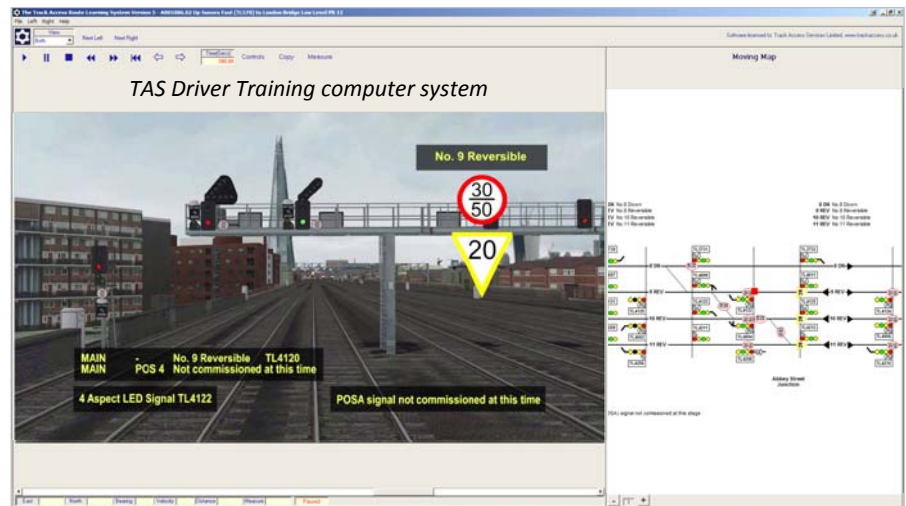
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TAS Driver Training computer system

TAS HD Video with feature extraction overlay

LASER POSITIONAL VIDEO SURVEY

NEW – *Rapid Data collection on the railway via mobile laser scanners*
TAS Laser Positional Video Survey is our newest service, offering Network Rail and their contractors a simple route to acquisition of comprehensive video and Pointcloud survey data.

OTHER NEWS

NEW – *Film and Media production continues with the completion of the Northern City Line Evacuation Film.*

NEW – TAS are part of the BlackRookTASpa consortium offering a wide range of media services including film production, animation, CGI, live action, time lapse, driver POV filming, news gathering, outside broadcast and motion tracking.

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THE GEOSPATIAL EVENT

HIGH QUALITY VIRTUAL REALITY • HIGH DEFINITION VIDEO
DESKTOP SIGNAL SIGHTING • VIDEO IN MICROSTATION
TAS BENTLEY SIGNAL SIGHTING

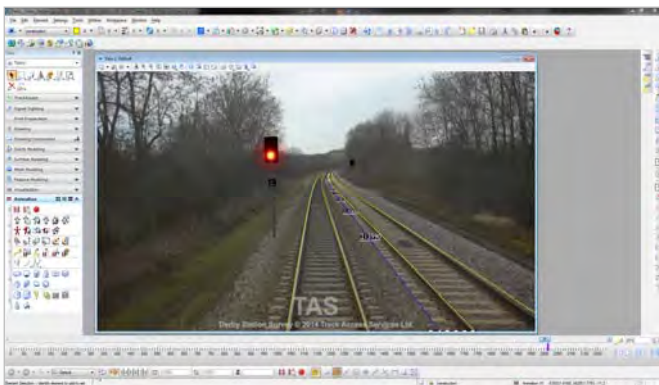**B Bentley®**

DEVELOPMENT PARTNERS

Signal Sighting is carried out to ensure that signals are placed in the best position possible for drivers to have the optimum reading time and a clear and unambiguous message relating to the signal aspect that is displayed subject to the constraints of legal requirements and Railway Group Standards.

Desktop Signal Sighting with the Bentley Tool set allows a complete and accurate signal sighting solution using a combination of video footage and virtual modelling.
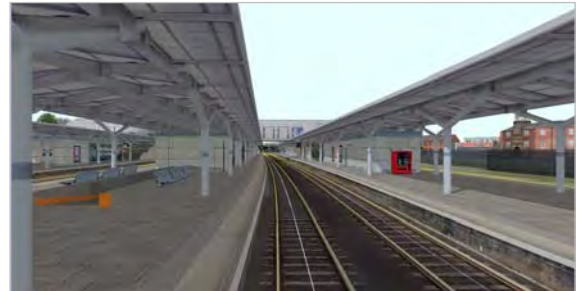
By collecting High Definition video and a GPS position we are able to place the video into the TRACK DESIGNERS computer CAD package so they can make designs while looking at what is actually out on the track. Virtual Signals can be added in exact locations checking to ensure the signal sighting does not present problems.

The package is currently being used by NWR for several remodelling schemes. Below is a benefits summary from them:

<u>GRIP 3 Summary of the benefits associated with TAS Bentley MicroStation Signal Sighting Software 'vs.' Traditional Technology.</u>

'The systems which have been used in the past have little use when redesigning track layouts with complex approach routes and multiple parallel signals as found in most large station areas, but with the use of the TAS 3D model we were able to better assess all signals in a safe environment, this included the effect parallel signals can have on target signals and also the potential for read through issues.

Another great advantage is being able to identify potential obscurations from signage and OLE with greater accuracy so these can be designed out early in the GRIP process.

Because we utilised the TAS model at GRIP 3 stage we were able to work with the permanent way, signalling designers and Network Rail MSRP to get a workable layout and optimise the sighting of signals before a full committee was convened.

The Bentley MicroStation based software enabled us to move, add and modify signals without additional input from the supplier which helped us to control costs and maintain progress to programme'.

Network Rail Project Team.

TAS Bentley Signal Sighting in Virtual Reality

TAS Bentley Signal Sighting in Video

TAS Video in Microstation – Obscuration Modelling

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HIGH QUALITY VIRTUAL REALITY • HIGH DEFINITION VIDEO
MAP BOOKS WITH FOLD OUT MAP • TABLET OR USB DELIVERY

TAS DRIVER TRAINING

With over 10,000 copies distributed in 2015 alone TAS Driver Training has been an industry standard package for driver route learning and training for over 10 years and is recognised and used throughout the UK by all leading Train and Freight Operating Companies.

Driver Training is an essential requirement in the process of Network Change. When significant track and signalling changes are made the TOC's/FOC's need material 16 weeks prior to scheme commissioning, in order to run relevant training courses for all their drivers.

TAS training packages have a number of recognised components and are built and designed according to the requirements and needs of individual projects or schemes. The essential components are a Driver Training Video or VR and a Driver Map which can be printed as a booklet with fold out concertina map.
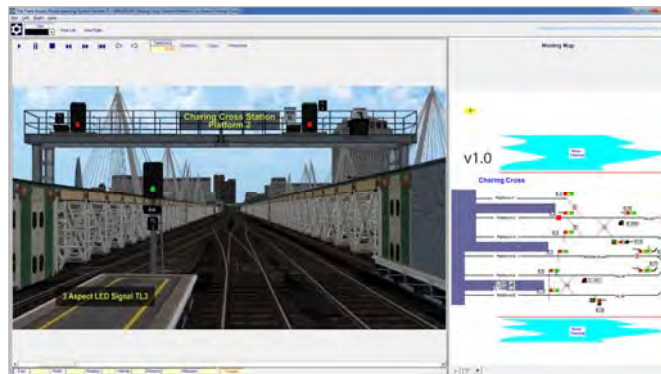
Depending on the project, the package can use material from TAS Survey, TAS In-cab video and/or TAS Virtual Modelling and can be supported by professional commentary and screen information graphics.

TAS Driver Training Computer System

The TAS Driver Training Package can be released on various sources:

- Tablet and iPad version with video and moving map
- USB/Portable Hard Drive with full TAS Computer Routes features which includes video linked to a moving driver map
- DVD for PC use with full TAS Computer Routes features
- DVD for playback on home DVD players

An important part of the training package is the Driver Route Map which contains a standardised format of the track layout, detailing all items of key interest for operational training.

The Driver Maps are delivered as both a computer PDF and as a printed booklet. The booklet contains information pages with special instructions and briefing notes, as well as signal information and aspect tables alongside the map. For larger areas a concertina map is produced as part of the booklet.

In addition to driver map books some projects require training PowerPoint's which run through all new control signals with animated route tables and spoken commentary.

TAS Video with tracked signal graphics and on screen information

TAS Virtual Reality with on screen information

TAS Driver Training Tablet/iPad Version

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OPENFLIGHT FORMAT • SIGNAL SIGHTING • DRIVER TRAINING SIMULATION • FULL SWITCHABLE RAILWAY INCLUDED

TAS 3D VIRTUAL MODELLING

TAS Virtual Railway is created to support all phases of Network Rail enhancement and renewal schemes.

Virtual Modelling is an important component part of the construction phase of many schemes. TAS Reality Models are built to a high level of fidelity and feature a fully switchable railway including all signals and signs.

The models are constructed with a low polygon count which is an important construction feature in order to support live playback.

Models are developed in conjunction with CAD designers. They are constructed directly from CAD drawings and all object models are built with precise dimensions.

Models are supported by textures obtained from our photographic and video survey, which add greatly to the complete look of authenticity, including foliage, graffiti, station features and platform objects. People can be added to stations for a more realistic feel.

TAS Virtual Railway can be used throughout the entire life cycle of projects, from Design through to Signal Sighting and on into Driver Training and Simulation.

TAS Virtual Reality Derby

Once developed models are available in a standard OpenFlight format that can be adapted and delivered for a variety of applications. Models can be input to CAD systems, used for flyover simulations and embedded into Driver Training material. Models are easy to develop and simple to change in conjunction with the master CAD models.

TAS have installed a full rail driving cab simulator at their offices which will run their virtual models in real-time using full train driving controls.

TAS Virtual Reality London Bridge LL09 & HL07

TAS Virtual Reality Derby

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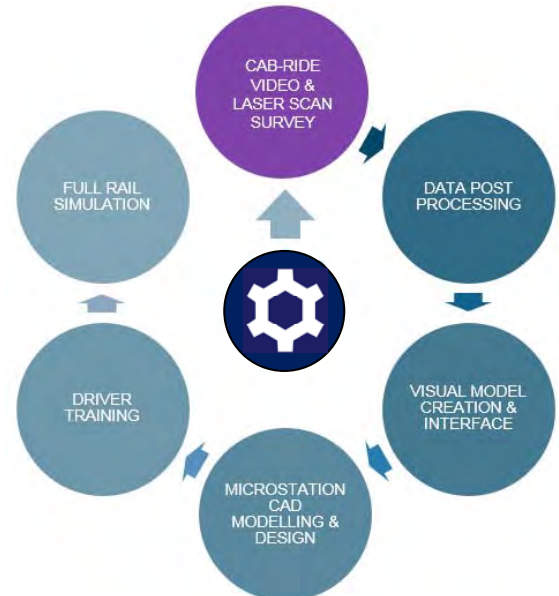## VIDEO SURVEY DATA • HIGH DEFINITION VIDEO
POSITIONAL DATA • POINTCLOUD

TAS LASER POSITIONAL VIDEO SURVEY

TAS Laser Positional Video Survey is our newest service, offering Network Rail and their contractors a simple route to acquisition of comprehensive video and Pointcloud survey data.

Our latest survey specification is based on a new configuration of data gathering equipment which collects high quality HD video and accurate positional data as well as high accuracy laser scan Pointcloud.

Working closely with the train operators, our surveys are carried out using forward facing cameras and mobile equipment in the driving cabs and externally mounted laser scanners configured to multiple types of rail vehicle.

TAS LPVS is a complete end to end service, where we plan, organise and complete surveys providing comprehensive scheme coverage over complex areas including stations, yards, loops and sidings.

CAB-RIDE VIDEO & LASER SCAN SURVEY

DATA POST PROCESSING

VISUAL MODEL CREATION & INTERFACE

MICROSTATION CAD MODELLING & DESIGN

DRIVER TRAINING

FULL RAIL SIMULATION

A complete survey service including full train operations

Our charge structure is simple, once the data is purchased it may be used many times throughout the life of a scheme or project without additional cost.

Our survey data output is supplied according to the specific requirements of individual projects. Upon completion of the survey we carry out all the post processing requirements, prior to data delivery. Output delivery types vary according to the on-going needs for the data, ranging from Video Viewing to complex CAD integration. The data can also be used to create high quality 3D Modelling.

Working closely with Bentley Systems we have developed a direct feed for our survey and video data into Bentley Microstation CAD and Bentley Rail Track Applications, which enables the survey data to form a video backdrop over CAD for 3D design and enables fully Interactive Desktop Signal Sighting and OLE design.

TAS Video with feature extraction

Pointcloud