Pennant

Track Access

Rail & Track Access Services

From technical documentation to manuals and video to simulation, Pennant and Track Access Services have been supplying the rail industry with innovative training solutions and services for decades.

RAIL

Pennant has over 60 years' experience working with rail industry primes and their supply chain, adding value through experience, capability and versatility, offering limitless potential for information transfer. The addition of Track Access Services to the group has further strengthened our capabilities and offering to the rail sector.

We are recognised members of the Rail Industry Association (RIA), are ISO 9001 accredited and are a verified supplier on the Railway Industry Supplier Qualification Scheme (RISQS).

Pennant has been involved in numerous rail projects, showcasing extensive experience and expertise. Successful manuals and training contracts across the world have included the design, production and development of Operator and Maintenance Manuals, Work Instructions, Illustrated Parts Catalogues, Training Courseware, and the delivery of both classroom and practical training.

TAS was established in 2002 and began by producing cab-ride videos to show the driver's eye view of the railway throughout the UK. This quickly became recognised as a valuable tool for Network Rail and the Train and Freight Operating companies, improving driver route knowledge and safety on the railways.

TRACK ACCESS SERVICES (TAS)

Track Access Services products and services are used extensively by organisations throughout the UK and Ireland and are designed to assist and support all stages of projects in a safe and cost-effective manner.

TAS developed the first PC program for delivery of Driver Route Leaning material with their Route Player application, which synchronises driver's eye video to its location on an interactive map. The online version of the application, TrackAccessPortal.com, delivers the material to any platform.

TRACK ACCESS PORTAL

WWW.TRACKACCESSPORTAL.COM

A secure browser-based distribution platform offering access to a range of training and survey video services. The online portal is suitable for both large and mobile devices. Users have a secure individual login to access such things as: HD Video in LH Window, Moving Interactive Map and/or asset index in RH Window with management facilities and statistics available for management level users.

Other capabilities include:

- Realistic Simulation Modelling used to visualise enhancements and renewals of railway infrastructure
- Provide operational briefing to drivers prior to commissioning
- Possession planning and signal sighting work to be carried out from desktop environments
- Rail Driver Training
- Operational Video Surveys
- Video & Laser Scanning
- Point Cloud Feature Extraction for CAD
- 3D Modelling
- Rail Driver Training
- Signal Sighting Simulations.
- Training Film & Media Production
- Online Content Delivery

RAILWAY SURVEY

SIGNAL SIGHTING

RAILWAY SIMULATION

DRIVER TRAINING

FULL PORTFOLIO CAPABILITY

ROUTE FAMILIARISATION

DRIVER'S EYE VIDEO FOOTAGE

Driver's Eye Video Footage is used widely in the industry for familiarisation and driver route learning. It is in cab HD route filming that is collected from the driver's cab of in-service trains.

▼ Augmented with new signalling and signs

▼ Full VR modelling for new infrastructure

▼ On-screen information graphics

▼ Professional script and recorded commentary

▼ Used for TOC and FOC briefing for Network

▼ Change prior to commissioning
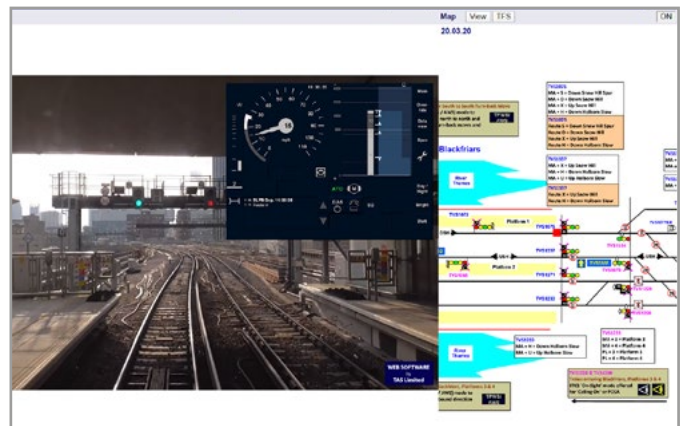
DRIVER ROUTE MAPS

Driver Route Maps and route information booklets are available to accompany videos.

▼ Familiar schematic format shows all information relevant to drivers

▼ Produced digitally for use in TAS Computer Routes and as printed booklets

▼ Signal route information and images

▼ Universal symbol library

DURHAM COAST - DRIVER TRAINING:

"I found the experience working with you and the Pennant - Track Access team, from arranging the video capture through to the final versions of the driver training material, extremely straight forward and efficient. Which resulted in a quality product at the end. All that despite COVID-19 causing disruption throughout most of that period!"

– Paul Spence, Senior Project Engineer, Durham Coast Resignalling, Network Rail

COMPUTER BASED TRAINING (CBT)

Pennant has been at the forefront of distributed learning in the form of web and server-based e-learning, with Computer Based Training (CBT) and Computer Aided Instruction (CAI) applications, delivering consistently high-quality learning across an entire enterprise, in an efficient, clean, contemporary, and cost-effective way.

KEY FEATURES:

- Web and server-based e-learning

- Collaboration with government departments and global industry

- Access to anytime, anywhere training modules

- Can convert and transform legacy modules and training into HTML5 and other supported formats

- SCORM compliant

ACCIDENT AND INCIDENT RECONSTRUCTION

Requirement to produce reconstructions in short timescales for briefing staff on Accidents and Incidents.

Development for web deliverable includes: data capture, media design, storyboard, 3D modelling, animation, voice-over and programming.

SIMULATOR RELOCATION

Pennant currently offer simulator support across the UK to a variety of platforms and suppliers.

- Capability to decommission and remove.

- Complete modifications and enhancements.

- Re-establish within fixed facility or portable solution.

VIRTUAL REALITY

VIRTUAL REALITY SHUNTER TRAINER (VRST)

VR technology and motion tracking techniques provide a fully immersive training experience that you would expect from the real world, allowing you to replicate dangerous real-life scenarios, but in a danger-free environment.

VR reduces costs by replacing the cost associated with the real-life equipment and reduces maintenance costs, whilst also offering space saving solutions.

The Virtual Reality Shunter Training is a virtual simulation of a fully working train yard, complete with multiple siding lines, complex rolling stock and general hazards.

The training is led by the instructor who can preload scenarios for the student or create their own setups. The instructor control station allows the instructor to control all elements of the training exercise, from train movement to weather controls, they are also presented with a real and virtual world representation of the student. The trainer is looking for the student to perform certain actions to progress the lesson.

KEY FEATURES:

▼ Fully Immersive Generic Shunting Depot

▼ Variety of Rolling Stock

▼ Instructor Injected Hazards

▼ Time of Day and Weather effects

▼ Realistic student control via input controller
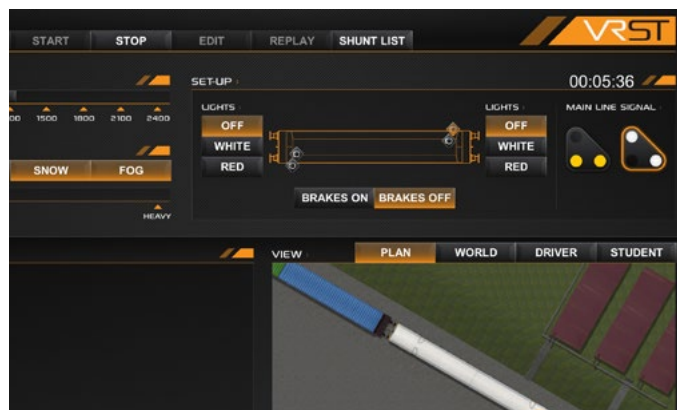
# RAIL SWITCHING SIMULATOR (RSS)

The Network Rail Switching Simulator (NRSS) has been developed for implementation alongside classroom training and allows students to put into practice the Electrical Control Room (ECR) working procedures and principles provided by traditional instructor-led training.

The NRSS has been designed to replicate the physical layout and unique operational challenges of an ECR. The simulator can handle both Electro-Mechanical Control Systems and Cromos Control Systems. For Electro-Mechanical System simulations, the student interacts with the system through touch screen inputs and for the Cromos System simulations, interaction is by means of a mouse. The student is provided with audible alarms when faults occur, in addition to a visual element which identifies the specific outstation failure.

The instructor has the facility to load or edit scenarios. The system facilitates a student/instructor debrief by capturing all system interactions and one instructor can manage up to four stations.

KEY FEATURES:

- Electro Mechanical & Cromos Control Systems
- Full electrical simulation
- Up to four students per instructor
- Extensive fault list
- Extensive scenario
- Instructor-controlled overrides
- Interaction & communication capture and playback
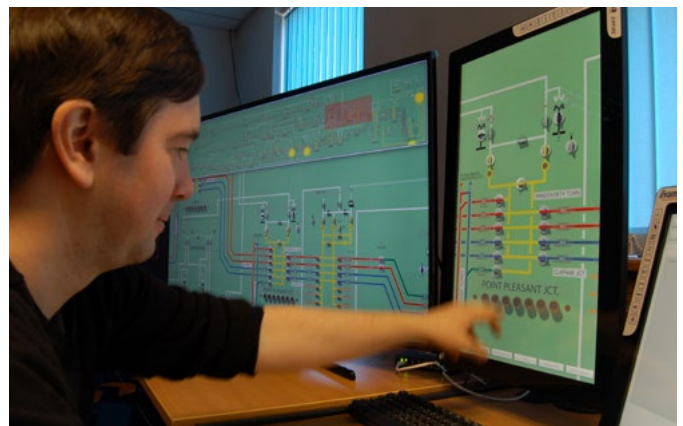
TECHNICAL PUBLICATIONS

Technical Publications can be anything from a printed owner's handbook to an interactive electronic technical manual (IETM), including intelligent 3D graphics compliant with S1000D, accessible over the internet on a range of mobile devices.

The global Pennant team of authors, illustrators and consultants have the ability to manage, develop, and deliver complex source data into a variety of technical manuals such as Operation and Maintenance Manuals, Parts Catalogues and training courseware utilising the robust Pennant IPS software.

We are proud of our hard-won reputation across a wide range of global industry, government and commercial sectors, including Defence, Aerospace, Rail, Automotive, IT and Communications, Power Generation, Utilities, Nuclear, Petro Chem & Gas, and many more.

With more than 60 years' experience and innovative technical development in the field, we are confident that our offer is comprehensive, professional and competitive.
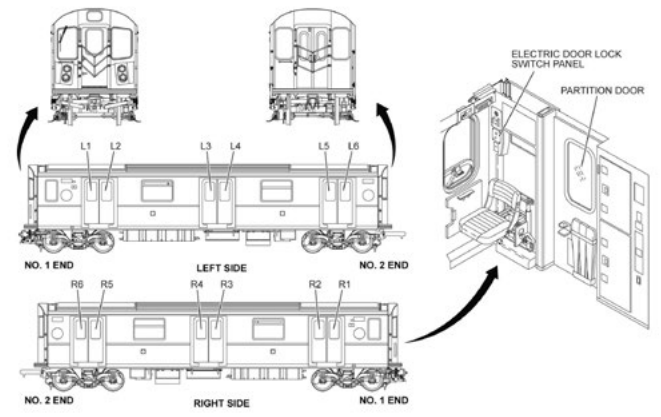
WE HAVE WORKED WITH:

CLIENT FEEDBACK

NETWORK RAIL
## DRIVER TRAINING FOR BRISTOL EAST JUNCTION REMODELLING:

Bristol Temple Meads is at the heart of future regeneration plans for the city and the wider region that will see it become a truly world-class transport hub. A programme of renovations is underway that, once complete, will bring a brighter welcome to the city and a better experience for passengers.

Pennant – Track Access were delighted to be chosen as suppliers of Driver Training material for the project which was to be issued to all local operators for briefing of the planned upgrades to the affected drivers.

Network Rail's in-house BIM team had created a highly detailed and textured 3D BIM Model which was used for design, engineering and signal sighting work. The model covered the area from Bristol East Junction through to Bristol Temple Meads Station and beyond.

With some tweaking to the lighting and texturing of the model, it was possible to render the required drivers eye videos in full high definition, high realism quality, directly from the BIM model and take them forward into the Pennant - Track Access Driver Training package. This saved the time and cost associated with producing a second 3D model specifically for Driver Training purposes.

The finished Driver Training package was delivered online to all local Train and Freight Operators via the Track Access Portal which allowed the immediate commencement of Driver Briefing sessions following user acceptance. Large scale printed maps were produced for classroom use along with printed A5 map books, USB keys and SD cards for individual offline use.
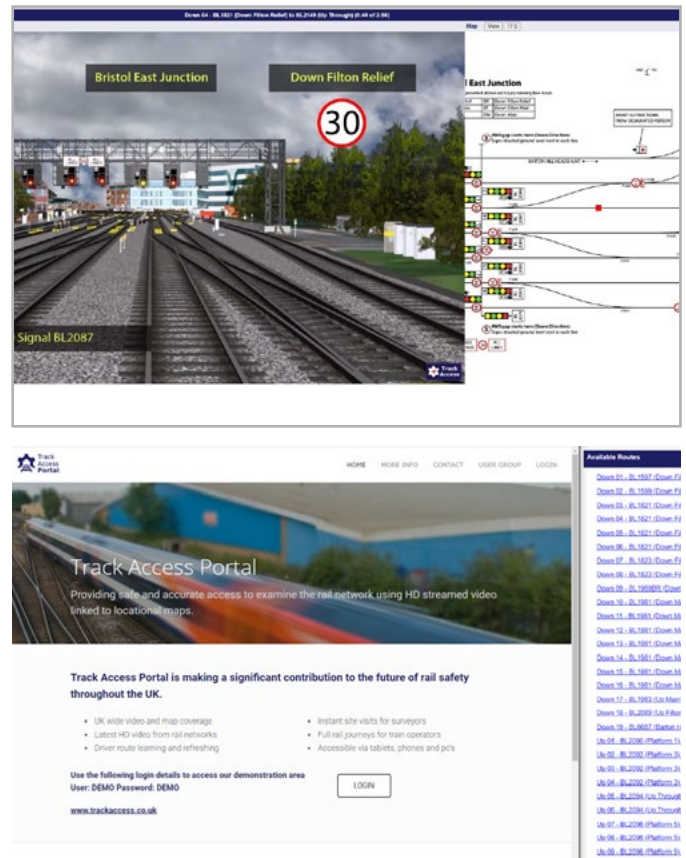
"I have been very impressed and enjoyed working with the team at Pennant producing the materials for our stakeholders. Even when faced with very challenging timescales, the standard of their work has been fantastic with good feedback from all. I found the team to be approachable, adaptable and proactive. They were always on hand when required and their collaborative professional approach was admirable. Well done!"

– Sarah Barnett, Project Manager,
Bristol East Junction Remodelling, Network Rail

SUPPORT

The Pennant Support function is a discrete entity within the group. This gives an advantage to the customer in that the support function remains free of the demands imposed by the production schedules and priorities.

Pennant has a well-established reputation for delivering highly professional, reliable and cost effective Customer Support Services. This experience, coupled with a schedule of preventative maintenance using experienced and skilled personnel, who shall also provide their knowledge for unscheduled corrective maintenance, will provide the customer the most efficient response to the requirements of the contract, and the demands of the equipment and its users.

To back up the Support personnel, Pennant have dedicated Software, Engineering, Technology Based Training and Manufacturing departments each containing staff that can assist with both onsite and in-house repairs. There is a close working relationship between all the departments and this has consistently been utilised to provide back up to the Support engineers in existing Support contracts, providing maximum flexibility and availability of qualified maintenance personnel.

Pennant believe it is essential to exceed customer expectation. This is achieved by successfully meeting all Service Level Agreements (SLAs) and Key Performance Indicators (KPIs).