



NEWS

A newsletter from AEGIS

Issue 10 Winter 2019/20

SOME CURRENT HIGHLIGHTS

Functional Testing & Validation - Bombardier

AEGIS is delighted to announce that our team has been selected as the preferred partner by Bombardier Transportation to support Functional Testing and Validation of their AVENTRA platform vehicles in Derby.

Over the next year, we will support Bombardier by delivering the fleet testing of their AVENTRA fleets.

We are proud that our approach to managing the validation process and capability to execute the work has been recognised - this is an important step towards our vision of being the preferred partner for engineering services in the rail market.

Our core knowledge and experience of the AVENTRA platform and years of hands-on expertise in the rail domain will help Bombardier bring the promise of these new fleets to rail passengers across the UK.

Welcome to the AEGIS Winter Newsletter



We hope that you have had a fantastic Christmas and New Year!

Well, 2019 was quite a year for AEGIS. We refurbished our Derby head office, opened a third office (2nd in Derby), undertook a review of our core values, formalised a people strategy, focused on staff wellbeing and recruited 17 more people taking the team size now to 55 people and won the inaugural RIA Rail Industry Supply Excellence award for Growth in Rail in the SME category.

We achieved our sales targets for the year, effectively “10x”ing the business since we established ourselves in Derby – both staff numbers and revenues grown by a factor of 10 over those 8 years. We became members of the RFG and RSSB, successfully delivered many significant projects for our clients, worked on several new and exciting alternative power and hybrid projects, issued 230 Engineering Conformance Certificates, trained up 3 more signatories, attended lots of exhibitions and networking events and dinners and met many great people along the way!

AEGIS has great plans for 2020, starting the year with opening a fourth office situated in the heart of Hammersmith in London. It is ideally located within 45 mins of all major transportation hubs (rail and air) so giving speedy access to all major railway industry companies and bodies in across London. It has capacity for four people to begin with but, being based in a shared office co-working environment, it offers great flexibility to support our growth.

Thanks to this flexibility, this office will give AEGIS employees a base to work from in London around their business meetings and also gives us the means to host our clients and partners for anything from one to one to large group meetings. It’s a major step forward to accommodate, and promote, AEGIS’ growth for 2020 and beyond.

Please come and visit us at 174 Hammersmith Road, W6 7JP – we look forward to welcoming you there! As ever, we hope that you find the newsletter of interest and welcome your comments and feedback on it or any of the projects we are working on.



AEGIS

Company Annual Meeting

Each December we hold an annual company meeting in which all members of staff get together to discuss the previous year and plans for the next. There were lots more people in the room than last year so we struggled to fit everyone into the room!

The management of the company gave an overview of the company's achievements and the major projects delivered in 2019 and then presented with the strategic growth plan for 2020. Mark McCool rounded the event off with a call for AEGIS people to "Dream Big" as we press ahead with AEGIS' next phase.



At AEGIS, we try to live by our core values every day. Each year we ask our team to take part in nominating their colleagues in our Core Value Awards. The categories are the values: Respect, Do the right thing, We care, Passionate and Excellence. This year's awards were presented to Hayley Thorne (Respect), Mark McCool (Do the right thing), Bethany Henson (Excellence and We care), Daniele Diana and Alastair Roberts (Passionate – joint winners – for the second year running!). Congratulations to them all!

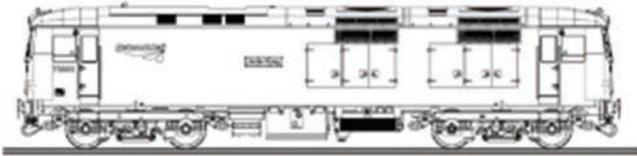
The day finished with the Christmas Party at Breadsall Priory Hotel and Country Club, Derby.

All our staff, associates and their partners enjoyed a good selection of food and drinks with live music provided by the "Two Tones" and a DJ. The dance floor was busy all night!



SPECIAL PROJECTS

AEGIS Certification Services Ltd have been selected by G-Volution for the certification and approvals of a Class 73 locomotive which is to be converted to run on Diesel and Bio LPG fuel.



The project is to modify a Class 73 freight locomotive to enable it to run as a dual fuel vehicle. The 'Decarbonising Rail Freight' project is administered by Innovate UK under their DfT funded 'First of a Kind' round 3 (FOAK3) competition.



The project seeks to install a dual fuel system to a Class 73/9 "Ultra" locomotive for a trial period to investigate the reductions obtained

in CO₂, NO_x and particulate emissions as well as reductions in fuel costs. The locomotives are owned by Network Rail and operated by Colas Rail. The project will provide data to support the wider roll-out of dual fuel technology in the rail freight industry.

The implementation on the Class 73 locomotive requires the installation of an additional fuel tank to hold the second fuel, in this case Bio Liquid Petroleum Gas (Bio LPG) together with a fuel delivery system. The Bio LPG fuel system supplements the existing diesel fuel system – both fuels are used simultaneously in co-combustion.



AEGIS Certification Services ACS will act as an "Assessment Party" (as per RIS-2700-RST) to verify compliance with the relevant standards and as an Independent Safety Assessor (ISA) to review the Risk Management Process associated with the conversion.

The objectives of the project are:

- A practical demonstration of dual fuelling by in-service operation;
- To demonstrate Nitrogen Oxide and Particulate Matter emissions reductions;
- Carbon reduction through reduced carbon fuels usage;
- Cost reduction via the use of a less expensive secondary fuel;
- To demonstrate the feasibility of installation to freight locomotives;
- To demonstrate the feasibility of secondary fuel provision track side
- To comply with the railway approvals regime; (RIS-2700-RST / ISA)
- To identify practical lessons learned from the trial;
- To provide real-world data for the purposes of producing a robust business case for wider application in the Railway Freight Industry.

This project aims to demonstrate the feasibility of dual fuelling in the British Freight market using technology that has already been proven in the road freight sector in the UK. It will help to develop the business case for dual-fuelling and demonstrate the carbon and cost saving advantages for freight locomotives. Demonstration in the GB market will also open the potential for this technology within the global freight market.

THE INFRASTRUCTURE TEAM

Following previous articles on AEGIS's Core Services and Rolling Stock teams, this issue of AEGIS News focuses on our growing Infrastructure team.

Complementing AEGIS's rolling stock and plant expertise, our infrastructure team's capabilities cover engineering, operations and assurance, and offers scalable support – from full assurance management and delivery for major projects through to specialist consultancy advice and support.

Martin Westerman joined AEGIS in 2017 to lead and develop the infrastructure business, bringing over 30 years of experience to the team. He explains that "AEGIS has an admirable set of values, a great team spirit and real desire to help projects and clients. The team has a broad mix of experience and is currently supporting diverse range of engineering and assurance projects, including depot signalling control systems, station renewals, level crossing safety initiatives, GSM-R radio through to multi-disciplinary support to the Wales & Borders infrastructure programme."

The team has grown considerably in recent years, with newer team members adding to the breadth and depth of engineering experience which includes signalling and telecommunications, electrification, track, operations and control centres and depots. Assurance is at the heart of AEGIS's core business, and the same is true for infrastructure, with our services including safety management and engineering (CSM RA), safety and interoperability approvals guidance and training, RAM (reliability, availability and maintainability) and design support, plus specialist services from other teams including EMC, human factors, software assurance and cyber-security. Through AEGIS's independent certification business, ACS, we can also provide Assessment Body, Notified Body and Designated Body services across all TSI sub-system and engineering discipline areas.

In line with our company values, our approach is to provide responsive and pragmatic support. We have established an enviable track record of supporting clients such as Network Rail, Amey, Siemens, Unipart Rail and Eurotunnel / ElecLink, and we will be seeking to maintain and develop new long-term relationships with our customers as we grow.



MARTIN WESTERMAN

Head of Infrastructure

Martin started his career in the nuclear power industry before applying and developing his systems and safety engineering skills within the railway. He has worked for EQE and Mason Communications before spending 17 years with MHA Systems/Lloyd's Register Rail/Ricardo Rail, most recently in a Professional Head role.

Martin has provided safety management and engineering support to various major projects including TASS (Tilt Authorisation and Speed Supervision), DART (Digital Advanced Radio for Trains) and NMC (Network Management Centres). He has also provided independent assessment and certification roles, including Independent Safety Assessor and Notified Body for GB GSM-R radio infrastructure and more recently the Notified Body for the Thameslink ETCS infrastructure.

Martin is a Chartered Electrical Engineer and a Fellow of the IRSE. He is also a Member of the IET, APM and INCOSE.



ANDREW HARVEY

Andrew specialises in safety assessment and approvals. Andrew has a sound knowledge of railway operations, stemming from the fact that telecommunications, his initial specialism, interfaces with all other railway disciplines.

Currently he is assessing the Remote Securing (of electrical isolation) Application hardware and software developed by Network Rail and the integration of the generic Bombardier ETCS On-board product on the Class 345 train. He is leading the CSM-RA assessment of the Amey Keolis Infrastructure Manager's Organisation as they prepare to take over maintenance responsibility for the Cardiff Valley Lines mainline infrastructure. In parallel he is assessing Amey Keolis as the Development Partner for Transport for Wales South Wales Metro project. He has produced the safety documentation and EMC documentation for the successful application of KVB ATP at Ashford international station.

Andrew was the Head Safety Assessor for Banedanmark's ERTMS/ETCS Signalling Programme and Lead Assessor for their GSM-R Element. He was also Head Assessor for the Aarhus Light Rail system and Lead Assessor for the Communications systems. He was also Lead Assessor for the Crossrail Communications and Control Systems and Lead Assessor for the Holytown to Midcalder Electrification project. He has also carried out a Notified Body assessment on the Generic Alstom Train Control System against the Command Control and Signalling TSI and many assessments of GSM-R Cab Fitment.

ALEX DESEMERY



Alexandre Desemery is a principal engineer and joined AEGIS in September 2019. He started his career, 19 years ago, in France in the military industry, mainly working to perform RAMS analysis on electrical equipment aboard

armoured vehicles. He then transitioned to the aerospace industry, performing hazard analysis on all the major Airbus programs (A320/A340/A380/A400M). Alexandre moved to Canada in 2007 and worked for a major rail signalling company in Toronto. He quickly progressed and expanded his knowledge and experience by working for different clients, suppliers and rolling stock manufacturers. Recently, he was involved in the Technical Advisor team for the Eglinton Crosstown Light Rail Transit project in Toronto, in charge of defining all the safety and security technical requirements for a brand-new line being built in the heart of Toronto. He then joined the delivery team, first as the Systems Assurance Manager, in charge of the assurance aspect of the project and then moved into the Testing & Commissioning Manager role, in charge of delivering the entire railway, from the construction phase to the revenue service phase, including the integration of the rolling stock in the new railway.

Alexandre moved to Derby from Canada last summer and has recently moved South to open the new AEGIS office in London.

ASMA KHAN

Asma began her career in the aerospace and defence industry. She has been with AEGIS for 2 years having previously worked in Denmark on the implementation of CBTC and ERTMS through supporting the approval of operational rules, GSM-R implementation, the safety approval of ETCS onboard equipment on various fleets and obtaining approvals for the testing of ERTMS for the Fjernbane (mainline) East. She is currently supporting the safety activities for the re-signalling of Northumberland Park Depot, the safety approval process for the new Glasgow Subway trains and the safety analysis for the proposed new AHB+ level crossing type.



ALAN JACKSON

Alan is an experienced chartered engineer specialising in telecommunications systems, RAM (Reliability, Availability, Maintainability), software assessment and safety engineering. He has experience of working at customer (Infrastructure Manager), supplier, sub-supplier, product development and certification levels. This experience has been gained on a variety of rail projects, both Infrastructure and Rolling Stock. Infrastructure experience includes GSM-R, DOO/ OPO CCTV, TPWS, tunnel ventilation, signalling, retail telecommunications, networks and station management systems.



GAVIN ASTIN

Gavin is a safety risk and management consultant specialising in the rail transportation sector for the past 25 years. In this time Gavin has worked on projects for the European Union Agency for Railways on topics including Freight Train Derailments (causes, consequences and potential mitigation measures), application of the CSM-RA across Europe and helping to define a Safety Alert system.

Gavin has also worked for rail clients including High Speed 2, Bombardier Transportation, Docklands Light Rail, the Commission for Railway Regulation, Network Rail, Metro Trains Melbourne, Perth Transport Authority. Currently, Gavin is supporting the Core Valley Lines upgrade project. These projects covered a variety of topics ranging from first principles risk assessment, hazard identification through to audit and compliance arrangements.



JIM McGRORY

Jim is an experienced engineer with more than 43 years' service in the rail industry, specialising in Operational Safety, Signalling interface, Control Systems, Vehicle-Infrastructure Integration, and novel technology. He has experience in heavy, metro, and train/ trams in the UK, Denmark, Ireland, and Euro-Tunnel, and has assessed railway safety against Interoperability Regulations, and Common Safety Method (CSM-RA).

He was Lead Assessor for Operational Rules and Infrastructure System Testing on Danish Rail ERTMS/ETCS Level 2 application (including the new Copenhagen- Ringsted High-Speed Railway Line) and S-Bane CBTC system.

He recently provided Project Support to Stadler on Glasgow Subway, and is currently Lead Assessor for UK ETCS fitment of Freight Locos and for the GWR Class 387 on London Crossrail.

ANDREW ALLEN



Andrew is a Chartered engineer and member of the IMechE and a senior engineer in the infrastructure team. With over 13 years' professional experience working in the rail industry, Andrew has been responsible for level crossing risk assessments and author of many risk assessments reports signed off by the Office of Rail and Road (ORR). Andrew has recently led a team of risk assessors on a project for Network Rail and received a letter of commendation for the work relating to this project. He has also worked on projects implementing Common Safety Method (CSM). Andrew splits his time between the infrastructure team works as a Plant Acceptance Body (PAB) assessor and is integral to issuing Engineering Conformance Certificates for On Track Plant. Andrew's career has taken him from a graduate track bed engineer with Scott Wilson, via Network Rail where he was integral to the management of gauging data for the entire rail network and has played key roles in high value rail infrastructure projects relating to electrification on the East Coast Main Line, before joining AEGIS almost 7 years ago, where he is now regarded as a level crossing risk assessment expert.

STEVE COWSER



Steve is a Chartered Quality Professional with over 52 years' experience of working within the nuclear, petrochemical, offshore and railway industries. He has had a long career with Network Rail and Railtrack including the role of route assurance and safety manager, undertaking accident investigation, audit, contractor assurance, change control, standards and compliance & safety performance reporting. From 2006 he has carried out safety verification on a variety of schemes across the national network acting as an 'Independent Competent Person' (ICP). More recently Steve has acted as a Principal Conformance Engineer on the various schemes which made up the Northern Hub and North West Electrification Programme. These include NoBo / DeBo duties as required by the Railways (Interoperability) Regulations along with Assessment Body duties assessing compliance to the CSM-RA regulations.

Current assignments include supporting the Transpennine Route Upgrade and the Core Valley Lines upgrade in Wales.



STEVE TURNER

Steve has over 30 years' experience of railway systems operations and integration experience both in the UK and internationally. During this time Steve has worked for Alstom on the Jubilee Line and Northern Line rolling stock projects, and also spent

several years based in Singapore on the North East Line project. Other projects have included the reliability improvement of the Class 180 DEMU's and the safety management of the Budapest metro Line 4 project. More recently, Steve has been working on systems integration and testing, and safety and assurance engineering on the London Underground 4LM upgrade programme.

Currently Steve is working on the safety assurance management of the Eurotunnel Eleclink project, undertaking CSM-RA Safety management and assurance work including hazard identification, hazard log management and safety verification studies covering qualified and quantified risk assessments. Including, presentation of results and findings to the Inter Channel Tunnel Safety Assessment panel. In addition to the safety approval of the Eleclink project itself this work also covers the introduction of new and modified plant and equipment, new on track plant, verification of O&M procedures, staff training and competency and management and approval of contractor safety submissions.

ALAN KITCHEN



Alan is a chartered electrical engineer with over 40 years of experience in signalling design, installation and testing with BR, Railtrack and Network Rail. He worked at Network Rail as Senior Programme Engineering Manager in the

S&E group, leading the national electrical design and testing teams. He has recent experience in CSM-RA undertaking assessments of projects involving infrastructure renewals and new stations. He has also undertaken assessments against the PRM TSI for new and extended station platforms. Alan is currently providing Safety Engineering support to the Network Rail Safety Technical and Engineering group for the development of new Level Crossing devices.

IMechE Railway Division Luncheon

For the third year running, AEGIS are proud to be sponsoring the IMechE Annual Railway Division Luncheon on Friday 28th February. Feel free to pop over and see us before, during or after the Luncheon to say hello!

SPONSORSHIP AEGIS Peaky Climbers

For the first time, we have entered a team into the Porterbrook Three Peaks Challenge by Rail taking place between 18th -20th June. The team – “AEGIS Peaky Climbers”, consisting of Chris Beales, Luke Wood, Ed Brundle and Andrew Allen – and all at AEGIS have pledged to raise £3500 for the Railway Children charity. At time of printing we have raised 26% of our target, so have a way to go yet! To sponsor the team please visit <https://uk.virginmoneygiving.com/Team/AEGISPeakyClimbers>. All donations gratefully received.

RSN 2020

Not only are AEGIS exhibiting at RSN 2020 on 2nd July, we are proud to have been invited to host a separate “Rail Market Approvals – Demystified” event. There will be a series of seminars, delivered by our in-house experts, that will explain the key requirements, the route to satisfying those requirements and our own approach to providing the services that help progress Railway Approvals efficiently to a successful conclusion.

Due to the expected high demand for these sessions pre-registration is required via the AEGIS page on the RSN 2020 website <https://www.rsnevents.co.uk/rail-market-approvals-demystified/>.

We look forward to seeing you there!



ROLLING STOCK NETWORKING

Derby Arena
Thursday 2nd July 2020
9:30am to 3:30pm

BRINGING THE RAILWAY ROLLING STOCK INDUSTRY TOGETHER

EXHIBITOR

Customer Satisfaction Survey Results 2019

We have been working hard over the last four years to understand what our customers want from us and how we can improve on our already highly rated service.

Feedback received in 2018 requested improved response times and for us to provide frequent and/or scheduled progress updates. We have taken this on-board and have been working hard to respond to enquiries in a timelier manner and to communicate better and more frequently to keep clients informed of project progress. We are delighted and proud that 93% of respondents said they were either likely or extremely likely to recommend AEGIS - we feel this reflects that our hard work is being acknowledged and appreciated by our customers.

Thank you to everyone that took part in our survey.



New Starters



SUHAIL ERMUS

Suhail relocated from Madrid with his wife and twin daughters to join us as Principal Assurance Engineer. Originally Cuban by birth, he moved to Spain as a child. He is a Telecommunication, Electronic and Software Engineer with ten years' experience in the rail industry. He has worked on railway projects as assessor, surveyor, auditor and project manager mainly focusing on safety and software. Suhail has experience with NoBo, DeBo, AsBo and ISA projects and has a good understanding of railway signalling systems and standards compliance (i.e. EN 61508, CENELEC EN50126, EN50128, EN50129 and EN50159). As well as his native tongue, he is fluent in English, French and Italian.



GARETH BROWN

Gareth has joined us as a Graduate EMC Engineer and is following our IMechE accredited AEGIS Developing Engineering Scheme. He joins the EMC team within the Safety Engineering Department. Gareth studied a BSc in Astrophysics at Cardiff University and will be embarking on an engineering Masters degree in the coming months.



OLIVER DAWSON

Oliver has joined as a Software Assurance Engineer. He is a computer science graduate from Nottingham Trent University who worked on many different software development projects from mobile apps to VR programmes. He joins the Software Assessment Team to assist with the evaluation of software systems and their development processes.



STEVEN CURPHEY

Steven has joined as a Senior Engineer. He has over 10 years' rail industry experience, most recently as a Development Engineer at Pandrol Track Systems, managing new product introduction projects globally. Steve has an MSc in Advanced Mechanical Engineering and significant international track construction experience. Steve is working as a Lead Assessor within the PAB team and a Lead Reviewer on product acceptance projects.



GEMMA RIMINGTON

Gemma has joined the Core Services Team as Finance Assistant. Gemma is experienced in credit control, payroll and other aspects of accounts. She will provide invaluable support to our Finance Manager, Hayley Thorne.



MAGALI DESEMERY

Magali has joined to support the Core Services Team with business admin activities. She also has 10 years engineering experience, including the design of semiconductor devices for Motorola and On Semiconductor and several years working as a Safety Engineer for Thales. She has also experience in procurement and ran a restaurant in Toronto before moving to the UK.

We would like to welcome Suhail, Gareth, Oliver, Steven, Gemma and Magali to the team!



THE POSITIVE CHOICE

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