



Editorial

Welcome to the first ENOTRAC newsletter of 2010. I hope you had a good start to the new year.



For most of last year, the economic woes and the dreaded word 'recession' were, understandably, rarely out of the headlines. Although the rail industry is not immune from the buffeting of the world economy, it's comforting to observe that, overall, rail is riding through the global storm rather well, with stories such as 'Fastest train in the world enters passenger service in China', 'Construction starts on the biggest project in Europe (Crossrail)', and 'Network Rail goes all out for electric future' appearing in newsprint and even on prime time TV. Recent announcements of huge rail investments in the Middle East, Russia, the Far East and Australia complement the positive picture.

Of course, not all headlines are so upbeat for rail. 'Drivers losing out to rail investment' is one that is repeatedly raised by motoring groups. However, given the clout of the powerful road lobby, it is refreshing to see the politicians beginning to appreciate the green credentials of rail, not to mention the boost that rail infrastructure projects give to economies both during construction and for generations to come. President Obama admitted as much when he recently announced the modest \$8 billion grant to high speed rail in the USA, the mother of all road lobbies. And high speed lines are, by definition, electric.

Naturally, ENOTRAC is proud to be part of the electric rail success story, thanks to the trust and support of its clients. I wish you all the best in being part of this success in 2010 and beyond.

Dr. Ziad S Mouneimne BSc PhD CEng FIEE
Managing Director
ENOTRAC UK Limited

Contacts

Technical queries: sebastien.lechelle@enotrac.com
Other queries: jean.copcutt@enotrac.com
URL: www.enotrac.com

News

Maintenance and asset management with



For almost 20 years ENOTRAC has developed and distributed software solutions for planning, processing and optimising of maintenance for railways. The software solution formerly known as Tractivity and Vips@Carsis has got a new name: **zedas@asset**. The naming of the product reflects the further development of individual software modules in the context of a growing and consolidating market.

zedas@asset supports the operators of railway facilities and rolling stock fleets in asset management (configuration, history) and maintenance (planning, fault detection and correction). The zedas family also includes the software zedas@cargo for logistics management.

At ENOTRAC, our primary goal is to support our clients in specialised technical and organisational issues of maintenance and generate tailored solutions. The software is a means to an end.

An in-depth and thorough understanding of our clients' requirements has led us to develop several software innovations. WebFAILURE is an example of such development. This web application allows employees to record asset failures in a simple and intuitive manner from any point in the railway directly into the zedas@asset database. WebFAILURE significantly shortens the process of reporting failures.

The integration of wheel-set measurement records in zedas@asset is another strong point. The knowledge of the wheel-set state allows precise planning of maintenance activities and long-term improvements of the maintenance process.

Florentin Abächerli is your zedas@asset contact at ENOTRAC.
Tel.: +41 33 346 66 16 or
Email: florentin.abaecherli@enotrac.com



New team members

Our British office is welcoming two new members.



Chuan Tan joined ENOTRAC in July 2009. He holds a degree in Electrical & Electronic Engineering with Management from the University of Bristol, UK. His hobbies include swimming, playing tennis and badminton.

Kevin Bibby joined ENOTRAC in October 2009. He holds a degree in Electrical & Electronic Engineering with Study Abroad from the University of Bristol, UK. His hobbies include snowboarding, badminton and acrobatics.



Adelaide Rail Electrification

ENOTRAC has recently been awarded a contract for the power system study for the Adelaide Rail Electrification project, South Australia. Working for and with the Department for Transport, Energy and Infrastructure (DTEI) ENOTRAC will assess the proposed design for the 25 kV booster transformer electrification scheme. The work will cover loading, power quality and EMC studies.



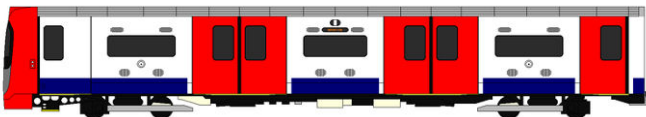
The Adelaide passenger railway network consists of around 250 single track kilometres over four main lines and two spur lines. The electrified network will support increased levels of service, operating a mix of converted 3000 Class rolling stock and the new 4000 Class EMUs due to arrive in 2012.

The electrification of Adelaide's metropolitan rail network is a joint investment between the South Australian State Government and the Australian Federal Government.

Success for Victoria Line 2009 Tube Stock!

The first 2009 Tube Stock (TS) started passenger service on London Underground's Victoria Line on 22nd July 2009. The new trains are built by Bombardier Transportation in Derby, UK. ENOTRAC has been supporting Bombardier since the start of the project in the work to demonstrate Electromagnetic Compatibility (EMC) between the new trains with London Underground's infrastructure and neighbouring railways such as Network Rail and High Speed 1 (HS1).

ENOTRAC's work has included: hazard identification and the maintenance of an EMC hazard log, analysis of test results and writing the EMC Safety Case.



The work continues to support the introduction of the 2009 TS fleet. ENOTRAC is also supporting Bombardier in the EMC work for the new S-stock trains for LU's Sub-surface Lines. The first S-stock train is currently undergoing tests on the Metropolitan Line.

RailEnergy SP3 workshop at UIC

ENOTRAC took part to the 7th RailEnergy workshop organised at the UIC headquarters in Paris on March 10th 2010. RailEnergy is an Integrated Project co-funded by the European Commission under the 6th Framework Programme for Research and Development. ENOTRAC is a member of the RailEnergy consortium and used the workshop to presents results on the assessment of innovative technologies for energy efficient railway traction power supply. These include DC reversible substation (promoted by ALSTOM) and 2x1.5 kV DC supply (promoted by SNCF).



URL: <http://www.uic.org/baseinfo/reunion/reunion.php?id=62380>

Tech corner

SIL Certificates for propulsion control systems

The propulsion systems built by Bombardier use the 2nd generation Drive Control Units MITRAC CC DCU2. The DCU2 platform consists of three devices for traction, auxiliary and line converter control. To cope with the increasing safety requirements, Bombardier has decided to implement selected functions of the DCU2 platform with a defined safety integrity (SIL1 and SIL2) in accordance with CENELEC Standards EN 50126, EN50129 and EN50128. ENOTRAC has supported Bombardier in this challenging project from the specification and planning phase through to the validation and the preparation of the generic application safety cases for the DCU2. The successful achievement of the safety targets has been confirmed by TÜV Rheinland InterTraffic GmbH in their role as Independent Safety Assessor. With the concept of a DCU2 platform and its generic safety case, the effort for the proof of safety for specific vehicle projects has significantly been reduced. This has successfully been demonstrated in the following projects:

- (MR)SSL (Metronet Rail Sub Surface Lines): Replacement of the existing rolling stock on the Metropolitan Line, Circle Line, Hammersmith and City Line and District Line of London Underground. The trains consist of 7 or 8 cars, operate on 630 V DC (and later on 750 V) 4-rail system and are designed for a maximum service speed of 100 km/h.



- Talent2: new commuter train sets delivered to Deutsche Bahn AG for use in Germany and Austria. These trains operate on 15 kV 16.7 Hz (with an option of dual voltage operation also on 25 kV, 50 Hz) and are designed for a maximum service speed of 160 km/h. Talent2 train sets can have different configurations: 2,3,4,5 or 6 cars.



ENOTRAC supported Bombardier also in these order projects to achieve the specific application safety case and the TÜV Certificate in time for the acceptance of the trains by the Railway Safety Authorities.

Bombardier is also delivering commuter trains to SNCF for the Paris-Île de France region. The NAT trains (Nouvelles Automotrices Transilien) are dual system vehicles capable to operate either on 25 kV 50 Hz or on 1500 V DC electrified lines. The trains consist of 7 or 8 cars and are designed for a maximum train speed of 140km/h. The NAT propulsion control is based on the former DCU1 drive control unit. For these trains, ENOTRAC has been given the role of the 'validator' for the proof of safety of the propulsion control application software. TÜV Rheinland InterTraffic GmbH has confirmed compliance of the SW with SIL1/2 in accordance with CENELEC standard EN 50128 in their assessment report.

