

# Rail Professional

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SENIOR  
MANAGEMENT  
POSTS INSIDE

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## Bridgeway - access all areas



### Rail Live 2017

Victory in unity



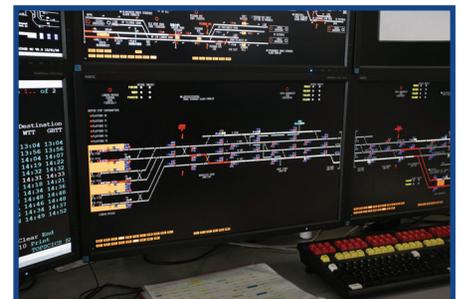
### High speed

HSRIL: a call to export



### Signalling

When things go wrong



# Repair don't waste

Issues related to technology obsolescence, failing supply chain and the funding gap have given overhaul managers and operation directors several sleepless nights

**T**hrow in the pressures of recruiting – and keeping – skilled staff whilst maintaining critical assets working 24/7, and you have a perfect storm brewing. ABI Electronics helps rail operators and suppliers deal with these issues having developed hardware and software products that are easy to use, affordable and supported all over the world.

Despite being built to last for many years, electronic railway systems commonly suffer from a lack of maintenance documentation and the rapid acceleration of technology. As a result, expensive and vital assets may be deemed obsolete in a matter of only a few years.

Relying on the OEM or external service companies may be a rational, yet expensive option as these organisations run on a different timetable, may operate from an office located thousands of miles away and can take months to return critical components, sometimes unrepaired.

Metro companies and rail network operators often run electronic support shops to respond to breakdowns more efficiently. However, keeping electronic depots relevant and sustainable in the long run is not an easy task.

As the maintenance procedures are based on the technology currently in use, repair documentation, test rigs and know-how accumulated over decades may fall into

disuse when key staff members leave or retire, the fleet gets modernised or replaced without a plan being previously discussed or implemented by the administration.

## Made in the UK, employed worldwide

Established in the UK in 1983, ABI Electronics is a manufacturing company that provides the rail industry with the technology required to keep new, as well as ageing, electronic equipment running.

ABI's BoardMaster Universal PCB Tester is the most recognised troubleshooting equipment currently employed by leading companies operating in the railway sector, from San Francisco to Beijing.

Willian Santos, ABI's international sales manager says: 'The average in-house repair using the BoardMaster is 80 per cent cheaper than sending the electronic PCB back to the OEM or external service provider

for repair. The system provides a unique hardware and software platform capable of driving defined standard operating procedures (SOP) for testing complete assemblies as well as performing component level test and repair validation.'

Regardless of the circuit's design, age or application, the BoardMaster's range of 25 different power on and power off tests has given its users the ability to repair a wide range of rolling stock and infrastructure systems such as:

- rail communication systems (CBTC, ATO, ATS, ATP)
- air conditioning and door controls
- auto pilot, driverless systems
- breaking and traction systems
- passenger Information systems
- power systems
- signalling
- CCTV, barriers
- train control systems and driver training simulators.

## #Repairdontwaste

The staggering volume of electronic based systems driving rail networks, increases the concern not only with the time wasted running inefficient maintenance schedules but the scale of electronic waste it could create.

Sao Paulo Metro, one of ABI's long-term customers, owns several BoardMaster units acquired since 2002 and employed at the company's multiple electronic repair shops. Transporting four and a half million passengers every day, the Sao Paulo Metro has over one million electronic circuits divided into 12,000 different designs.

In 2014, the company reported savings of \$50 million from becoming self-sufficient and repairing all rail electronic systems in house. The asset availability achieved 99.7 per cent and the success rate on the electronic repair area is at 100 per cent.

'In a recent meeting with the company's manager, we were made aware of the huge impact our technology has had on Sao Paulo Metro over the last 15 years. It has created job opportunities, further advanced people's careers and helped the team to establish a world-class, highly efficient repair process that protects the environment' states Willian.

Another solution from ABI, the Schematic Learner System RevEng, can generate circuit diagrams from existing PCBs, providing crucial information to help



**ABI's BoardMaster helps you repair:**

- ✓ Rail communication systems
- ✓ Breaking and traction systems
- ✓ Air conditioning and door controls
- ✓ Auto pilot, driverless systems
- ✓ Passenger information Systems
- ✓ Signalling, infrastructure
- ...and much more!




**abi**  
Saves you time!

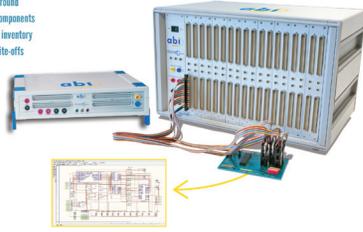
#Repairdontwaste

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**RevEng, PCB Schematic Learner.**

**Why use RevEng?**

- ✓ Cut down fault finding time
- ✓ Improve turn around
- ✓ Replace less components
- ✓ Reduce spares inventory
- ✓ Limit board write-offs



end users spot and repair faults on similar designs.

The equipment's 2048 channels allow technicians to quickly and precisely learn how components are interconnected, generate a netlist through a software guided process and export it to a professional CAD/EDA tool.

**San Francisco Metro**

The San Francisco Muni Metro (SFMTA) has recently joined ABI's group of customers. Following the acquisition of light rail vehicles from SIEMENS, the SFMTA was faced with the challenge of restructuring the electronic support shop ahead of the arrival of the modern electronic rail systems installed within the new trains.

The test solutions and simulators developed over the years to support the existing Breda LVR2/3 series would no longer be suitable. Furthermore, the lack of essential maintenance documentation with the new trains made it impossible for the team of experts at the SFMTA to develop custom test solutions. This situation prompted the management to procure alternative solutions.

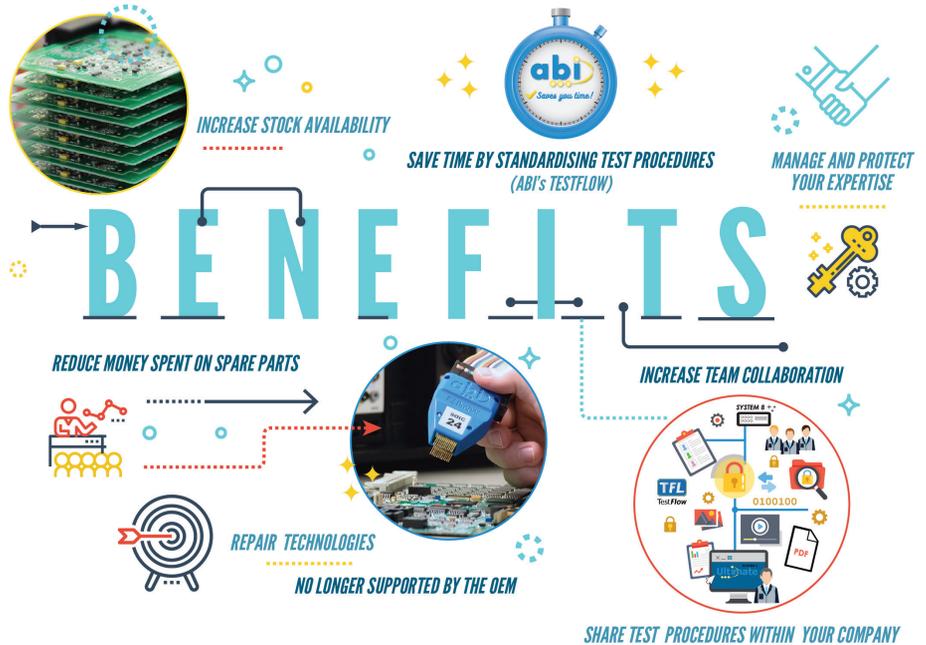
Last year, the SFMTA elaborated a list of requirements including solutions for test, troubleshooting and schematic generation from ABI. In March 2017, ABI received an order worth \$200,000 for the supply of multiple packages to meet the SFMTA's needs.

ABI's master distributor in the USA, Saelig Company, has handled the procurement process and will deliver advanced training to a group of 18, level three repair engineers working at the SFMTA. The training is planned to take place upon the delivery of the goods scheduled for June 2017.

'We are proud of the trust the SFMTA and many other mass transit companies have put in ABI's products over the years. We are committed to helping our customers thrive extending the lifespan of their electronic systems whilst maximising the return on their investment.' says ABI's managing director, Shaun Hayes.

**Why ABI?**

A few reasons explain why international rail companies choose to work with ABI's systems. The products not only bring unique features but are reasonably affordable with



an average ROI rate of under 12 months.

'Customers reported being able to recover their investment during the training when a \$40,000 PCB was repaired with the help of a BoardMaster.' says Willian.

The BoardMaster also saves rail customers time by learning valuable measurement information from golden PCBs and storing instrument setups. Stored information can be recalled and compared later to identify problems on similar PCBs and complete the repair in a fraction of the time compared to using traditional instrumentation or external service providers.

product utilisation. The UK team of support engineers is available to organise free training reviews and free online or over the phone product support. Customers also benefit from dealing with local international distributors present in 60 countries.

**Back story**

ABI Electronics was created 33 years ago with the aim to develop innovative solutions as a response to problems commonly found in the test and repair industry. The company's founders developed the world's first low cost test solution for integrated circuits that turned into a great success amongst engineers in the UK and abroad.

Growing very quickly, ABI developed and evolved, becoming the supplier of choice with blue chip enterprises, government institutions and independent electronics repair companies.

Over the years, ABI has remained loyal to its principle of fully designing and building high quality products in the UK. The company's electronic test equipment is used by a wide range of organisations operating in military, aerospace, automotive, medical, telecommunication and more.

ABI products have certainly evolved over the years and the company are continually innovating to cope with the changing requirements of the industry.

'Continuous innovation and high quality are our top priority. The company built a distinguished reputation over the past 33 years and we want to continue creating high quality, reliable products. This is one of the main reasons for keeping manufacturing in the UK.' states Shaun Hayes.

**ABI's User friendly TestFlow Manager.**



ABI's proprietary SYSTEM 8 Ultimate software gives customers the ability to develop interactive test sequences based on the acquired data. TestFlows, as they are called by ABI, are easy to follow and will allow less experienced staff to effectively troubleshoot similar designs, generating a detailed electronic report at the end of the test.

The software is free from maintenance fees, can be installed into multiple PCs as standard and updates are available free of charge from the company's website.

ABI also takes customer training very seriously, aiming to take their customers to the highest standard to maximise

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