

# MSEMM

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## INNOVATIVE SOLUTIONS FROM ABI ELECTRONICS



A LEADING MANUFACTURER  
OF TEST, MEASUREMENT  
AND FAULT DIAGNOSIS  
EQUIPMENT



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RUNWAY COULD  
GENERATE 28,000  
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# INNOVATIVE SOLUTIONS

**ABI ELECTRONICS IS A LEADING MANUFACTURER OF TEST, MEASUREMENT AND FAULT DIAGNOSIS EQUIPMENT WITH DIRECT APPLICATIONS IN R&D, REPAIR, MANUFACTURE, TEST AND EDUCATION.**



**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 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.**

From small to large organisations, issues related to technology obsolescence, failing supply chain and counterfeit components have been keeping managers and directors alike awake at night. Throw in the pressures to recruit skilled staff whilst reducing maintenance costs and e-waste, and you have a perfect storm building in the horizon. Since 1983, ABI Electronics has helped businesses deal with

these issues by developing hardware and software products that are easy to use, affordable and supported all over the world.

Over all these years, ABI has remained loyal to its principle of fully design and build 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, rail transport and more. The many success stories reported on the company's website indicate that customers have recognisably found a way to take back control over their own destiny in ABI's unique and innovative solutions.

A common problem faced by companies utilising electronic systems in their daily activities is that external repair is costly and time-consuming. If a part becomes obsolete, a whole system can be deemed unrepairable which can lead to numerous problems. This could mean companies would have no choice other than to buy a brand new PCB from the original manufacturer or upgrade a large portion of their infrastructure.

Apart from issues of timescale and cost, this would be an environmental concern for many organisations, as they would be throwing away complete electronic assemblies that only require minimal maintenance, given the right equipment.

ABI's top of the range BoardMaster, helps customers learn and store valuable instrument setup and measurement information from golden PCBs which can be returned into service. Stored information can be recalled and compared at a later date to identify problems on similar PCBs in a fraction of the time compared to using traditional instrumentation or external service providers. "We provide the technology that allows the recording of necessary data from a good known electronic PCB for later comparison. Our software gives customers the ability to develop interactive test sequences based on the acquired data. Our TestFlows 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" says Managing Director Shaun Hayes.

In the last 10 years the company has teamed up with international education providers in an effort to make ABI's technology available for the training of students on electronics repair and maintenance. ABI aims to help technical colleges bridge the gap between technical education and industry requirements.

Vocational training providers recognise that the demands of the electronics industry are not being met by some institutions and skills of repair and maintenance are fading from the curriculum. "Skills of repair and maintenance have disappeared in many countries over the past decade, but with the recent financial troubles faced by many nations there has been a renewed focus on strengthening these skills. By training young people in this sector, they become more employable and have a range of skills that are highly desirable by the industry," says International Sales Manager Willian Santos.

Since the mid-80s, ABI has been exporting its range of component test and diagnostic equipment through a network of specialised distributors. These highly qualified organisations, present in 60 countries across the globe, are part of ABI's strategy to deliver commercial and product support in the country where the customer operates from. "Our distributors play an important role in our approach to the global market, making product information as well as training available in local language, handling import matters and empowering our customers to utilise our systems to their full ability" states Willian Santos.

ABI products have certainly evolved over the years and the company are continually innovating to cope with the changing requirements of the industry. One of the company's key unique selling points, and something that is integral to the business values, is the fact that all of its products are designed and manufactured in the UK. The company has its own team of design engineers creating both software and hardware and it has its own production line. ABI are proud to be one of the few technology manufacturers who are still operating 100% from the UK.

"Continuous innovation and high quality are our top priority. We built a distinguished reputation around the world 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 Willian Santos.

Last year, ABI introduced the 4th generation of its Multiple Instrument Station (MIS4) which brings together eight high-spec virtual instruments that can be used simultaneously. The MIS4 allows customers to design their own instruments to combine functionalities, save and store test information. Complete with ABI's SYSTEM 8 Ultimate software, the MIS4 is a unique solution that reportedly reduces instrument setup times by 80% and test times by 50%. The system delivers a unique level of automation that can incorporate Python scripts for post-production test as well as field measurement applications.

As a response to the lack of documentation provided by the OEM to their customers, ABI incorporated RevEng into their product range in 2010 "Our schematic learning product allows customers to find out how the devices are interconnected on a good working PCB through a software guided operation. RevEng provides the user with a netlist so they can go on to quickly draw the much needed schematic" explains Willian Santos. With the schematic in hand, end users will benefit from a shorter repair turnaround as well as a higher level of understanding on how their electronic equipment works.

This aligns with one of ABI Electronics' key philosophies, "Repair, don't waste", an aphorism which is integral to the company's objectives and corporate responsibilities. The company sustains that complex industrial electronic systems should not be disposed when it fails on the basis that the OEM is not interested in repairing them. "With electronic waste soaring to levels never seen before, businesses should realise that technology is available to extend the life of their strategic electronic driven equipment", comments Shaun Hayes.

One of ABI's key international accounts is Lego whose core mission statement relates to the environment. ABI has been working alongside the company for three years to ensure that Lego Mexico has the products necessary to manage their own repair and maintenance and to minimise waste. ABI systems are currently used to keep over 700 moulding machines running in the Monterrey plant, contributing to a record increase in productivity praised by Lego's international management.







**“GIVEN THE WIDE SPECTRUM OF APPLICATIONS COVERED BY OUR PRODUCTS, WE DEMAND EXTREMELY HIGH QUALITY AND RELIABILITY FROM ALL OUR SUPPLIERS. WE HAVE WORKED WITH PHOTODATA FOR OVER 10 YEARS AND WE CAN VOUCH FOR THEIR QUALITY AS WELL AS EXCELLENT TECHNICAL SUPPORT”**



In 2009, ABI was awarded an international innovation prize for the creation of SENTRY, an anti-counterfeiting tool which allows the customer to easily test a product and compare it to a known good device that they previously had. SENTRY has become very popular among CEMs and component distributors, and is used as one of the techniques to help combat counterfeit IC's infiltrating production lines.

For several years, ABI has relied on Altera for their FPGA based designs. Altera, which is now part of Intel, supplies the technology that gives ABI a high level of flexibility to design complex embedded systems that can be upgraded in the field. As many of ABI's clients are abroad, it is essential that updates can be made through software. We remain loyal to our long term customers by designing products that are, in the vast majority of the cases, compatible with our previous designs. This gives us the chance to upgrade a 15-year-old system anywhere in the world to the latest standards and functionalities through software and firmware upgrades that are offered free of charge", comments Willian Santos.

Another key supplier of ABI is Photodata, the business behind the bare PCB used in most products made by the South Yorkshire company. "Given the wide spectrum of applications covered by our products, we demand extremely high quality and reliability from all our suppliers. We have worked with Photodata for over 10 years and we can vouch for their quality as well as excellent technical support, helping ensure all our designs are optimised for our SMT and THT assembly lines", says Shaun Hayes.

Looking to the future, ABI Electronics is working on improving and developing its marketing and promotional actions, strengthening bonds with new and existing clients. ABI has also been investing in its presence on social media and video streaming websites as means to spread the word on how the company can help businesses save time and money in their test and repair processes, wherever they are.

[www.abielelectronics.co.uk](http://www.abielelectronics.co.uk)

