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Company Bulletin

for EMC, EMP & TEMPEST Protection

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MPE PEOPLE

MPE team members achieve NVQ in Business Improvement Techniques

Following an eight-month training course, six members of the MPE team have achieved a Level 2 NVQ (National Vocational Qualification) in Business Improvement Techniques.

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Spotlight on Paul Davy

Paul Davy is the Production Scheduling and Supply Chain Manager of MPE, having first joined the company in April 2010 as a Planner/Buyer. Six employees report to him directly and 22 indirectly.

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MPE TECHNOLOGY

Maintenance, testing & training services

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Ground-breaking filtered connectors & assemblies from Amphenol®

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MPE DISTRIBUTOR NEWS

New distributor for Taiwan is catalyst for sales growth

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The French connection works well for MPE

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MPE APPLICATIONS

EMC, EMP & TEMPEST protection solutions for tactical shelters

Marshall Land Systems of Cambridge, UK, are leaders in programme and project management for defence, industrial and security solutions and major suppliers to the UK Ministry of Defence.

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Suppressing electrical noise on refrigerated containers for the battlefield

The Finmeccanica company DRS Technologies, Inc, headquartered in Arlington, Virginia, is a leading supplier of integrated products, services and support to military forces, intelligence agencies and prime contractors worldwide.

Click for more details

FAST FACTS ON MPE LTD

- MPE has traded since 1925 and employs over 50 people.
- MPE has designed, manufactured and shipped in excess of 8,000,000 high-performance EMC, EMP and TEMPEST filters and feedthrough capacitors in the last 30 years.
- Many products have been in service for more than 20 years with undiminished performance.
- MPE has a portfolio of over 20,000 custom product designs to meet all possible requirements.
- The MPE factory at Knowsley, Liverpool, is certified to the quality standard ISO 9001:2015, and its products meet all applicable defence standards.

For comprehensive information about MPE's products and services, contact the Sales and Marketing Department, MPE Ltd, Hammond Road, Knowsley Industrial Park, Liverpool, L33 7UL, U.K. Tel +44 (0)151 632 9100. Fax +44 (0)151 632 9112.
Email sales@mpe.co.uk. Website www.mpe.co.uk
If you have a friend or colleague who you think might find the MPE Company Bulletin informative, then why not forward it to them?

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Pictured left to right are Gary Combs (NVQ assessor and trainer), Mary Hampson, Lee Melvin, Mark Meadley and Karen Hill (with their NVQ certificates), David Seabury (Managing Director of MPE)

MPE team members achieve NVQ in Business Improvement Techniques

Following an eight-month training course, six members of the MPE team have achieved a Level 2 NVQ (National Vocational Qualification) in Business Improvement Techniques.

Back in late 2013, MPE made a decision to invest in formal problem-solving and project management training for members of staff. The benefit to MPE is that the skills and techniques acquired by these members of staff can be utilised within different areas of the business, to assist with the ongoing programme of continuous improvement. The benefit to the individuals is not only the attainment of a recognised NVQ, but also an opportunity to experience areas of the MPE business outside of their normal responsibilities.

A cross-departmental team of six were selected and included individuals from the fabrication, manufacturing, procurement and quality assurance departments. The training commenced in November 2013 and consisted of a half-day training session per week over six weeks, whilst fundamental analytical tools and problem-solving techniques were taught. This was then followed by a further half-day per week across 29 weeks, with each session covering the required theoretical modules for the qualification – health and safety, teamworking, 5S, visual management and continuous improvement, whilst also allowing the team to explore three “live” projects within MPE’s manufacturing area.

Here is the capacitor winding shop at MPE before and after improvements were instituted via the NVQ project, including the moving of machinery, rationalisation of space, and floor clearance and painting

Before

After

One such project looked at the capacitor winding area and process as a whole, identifying where improvements and further efficiencies could be made. Following analysis of the team’s findings, a project plan to address the areas of greatest impact was developed and implemented. The result has been significant improvements in floor-space utilisation and set-up time, reducing the latter by 28%.

The NVQ assessor and trainer Gary Combs of GT Innovations Ltd commented: “MPE Ltd is meeting the challenge of establishing and maintaining a culture of continuous improvement in quality, cost and delivery performance at every level. They achieve it through the support and sponsorship of training by their Executive Board, shown variously by Board members’ interest and presence at the project reviews, management’s involvement, and excellent candidate attendance. They have also recognised that, without the involvement of their front-line, value-adding operatives, a source of essential contribution would remain untapped.

“When GT Innovations was being engaged by MPE, it was apparent that the management team were aware of the economic challenges they shared with other manufacturing SMEs (small- to medium-sized enterprises), brought about by the national as well as global downturn and stronger competition. The days of making a product – and then applying a margin to its cost to arrive at a sale price – are all but gone. Today’s businesses not only are under cost and margin pressure through market-dictated

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prices and supplier price pressures, but also need to manufacture quality products with on-time delivery.

“As a result of the success of the NVQ training, MPE is now investing in a further course to train another six members of staff, and that will commence in September 2014.”

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Paul Davy

Spotlight on Paul Davy

Paul Davy is the Production Scheduling and Supply Chain Manager of MPE, having first joined the company in April 2010 as a Planner/Buyer. Six employees report to him directly and 22 indirectly.

Paul previously worked in consumer electronics at Philips for 28 years, based at four UK sites at different times. There he started as a trainee industrial engineer and progressed via systems engineering, production, purchasing, logistics and planning up to the position of Planning Manager for the cathode ray tube components product group.

In terms of academic qualifications, Paul graduated from Bradford University in 1982 with a BTech degree in Industrial Engineering. The course included industrial training at Pilkingtons, St Helens, and Duckhams in London. Subsequently he achieved an MSc in Operations Management at the University of Staffordshire, Stoke-on-Trent, in 2003. Indeed Paul has been a member of the Corby-based Institute of Operations Management for the past 15 years.

Among the certificates he holds are a Postgraduate Diploma in Management Studies from Blackburn College in 1988 as well as a Diploma in Production Inventory Management earned at Wigan College in 1998, with an Advanced Diploma in the same discipline at Dudley College the following year.

Paul is married with a daughter and two sons, all grown up, and lives in a village just outside Blackburn. Two particular hobbies he has pursued keenly over the years have been motorsport and photography.

He was involved with competitive go kart racing at school with both his sons and in 2006 acquired an NVQ in Motorsport Incident Management at Myerscough College in Preston. Paul has always shown particular interest and expertise in the photography of fast-moving objects such as military and civil aircraft and motorsport cars. He currently plays an active role in the Chorley Photographic Society in Lancashire.

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Filter testing

Pre-compliance testing

Thermal image checking of filter

Maintenance, testing & training services

Functionality testing & maintenance

MPE can provide to customers three structured levels of functionality testing and maintenance for installed electrical filters, as well as training customers' own staff to conduct these tests themselves. The levels of service include, but are not limited to, the following:

BRONZE

Powered-up visual inspection and basic functionality checking of filters, with no interruption of service. Temperatures are checked in particular. A single-page report is provided, recording the current status of the filter, recommendations for any more detailed or remedial maintenance requirements, and recommendations for a future maintenance schedule.

SILVER

Involves stripping down and checking. Powered-down visual and physical inspection of filters, including a basic circuit integrity check, health assessment and recording of integrated surge arrestor status. A single-page report is provided, recording the current filter status including surge arrestor log data, recommendations for any more detailed or remedial maintenance requirements, and recommendations for a future maintenance schedule.

GOLD

As per SILVER, but with remedial action taken – the preventative replacement of surge arrestors identified as having degraded so as to be at risk of future failure. A single-page report is provided, recording current filter status including new surge arrestor data, recommendation for any more detailed or remedial maintenance requirements, and recommendations for a future maintenance schedule.

Other specialist onsite testing services – and pre-compliance testing at MPE – are also available.

Upon completion of any of the above work, MPE undertakes to restore inspected filters and work areas back to their pre-inspection operational standard, unless to do so would result in health-and-safety issues affecting personnel.

Testing & maintenance training

Training is provided in basic visual and physical filter inspections, along with the health assessment and replacement of integrated surge arrestors. Furthermore trainees will be advised of any currently applicable standards which should be adhered to or considered. This training can be provided either at MPE or on the customer's own site.

Click here to download an information sheet on MPE's Maintenance, Testing & Training Services

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The Amphenol Rhino 38999 Series, high-power, filtered connector

Ground-breaking filtered connectors & assemblies from Amphenol®

High-power, filtered connectors for military vehicles

Amphenol is one of the largest manufacturers of interconnect products in the world for the military, commercial aerospace and industrial markets, manufacturing a variety of electrical, electronic and fibre optic connectors, coaxial and flat-ribbon cable, and interconnect systems for use in harsh environments.

The company identified a distinct trend towards increased power and voltage requirements on such applications as military and electric drive vehicles, aircraft and communications base stations. Accordingly the new and innovative Amphenol Rhino 38999 Series of high-power, single-pole, connectors have been developed to fulfil those requirements and are simple and straightforward to install and to use.

Amphenol recognised that many military vehicle applications have a need for EMC suppression and traditionally utilise a box-type filter that adds unnecessary cost and takes up too much space. Hence Amphenol approached MPE last year with a view to developing a ground-breaking range of connectors with integrated filtering. In conjunction with Amphenol, MPE has produced the Rhino range of filtered connectors to deliver a high level of EMC suppression performance, yet in a footprint that can be used within very tight physical constraints.

The high-power, filtered, interconnect assembly new from Amphenol

The challenge was to deliver that high degree of suppression within the envelope of a filtered connector that provides mechanical compliance to MIL-DTL-38999 Series III and EMC suppression compliance to DEF STAN 59-411 and MIL-STD-461.

Amphenol's Rhino 38999 Series are now available with a standard range of cost-effective MOTS (Military-Off-The-Shelf) filters suitable for EMC suppression of COTS (Commercial-Off-The-Shelf) equipment on military vehicles. This, combined with the benefits of field-proven MIL-DTL-38999 Series III circular connectors and hyperbolic contacts, greatly extends the boundaries of high-power connector technology. Rhino has been developed in conjunction with MPE as a world-leading manufacturer of high-performance EMC and EMP filters and capacitor products.

Click here to download the Amphenol Rhino filtered connectors datasheet

High-power, filtered, interconnect assemblies

In co-operation with MPE, Amphenol now also supplies high-power, EMI- and EMP-filtered, interconnect assemblies, suitable for EMC suppression and EMP protection of COTS equipment on military vehicles. The assemblies are supplied with the Rhino connector interface.

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Assemblies can be supplied with C or Pi filter circuits and can also include high-power varistors that provide protection against EMP and lightning strikes. The assemblies are supplied with pin contacts at one end and sockets at the other.

The use of RADSOK® contacts creates an electrical interface that exceeds typical interconnect requirements via a hyperbolic socket contact construction. The latter distributes normal forces over a high percentage of the mating surface, to ensure a smooth and even engagement force with exceptionally high performance under vibration. The large surface area of the socket contact also results in a very low contact resistance, enabling much higher current ratings compared to other power contact designs. Designed to accord with the latest military and Industrial specifications, Rhino 38999 filtered connectors also meet stringent safety requirements.

Click here to download the Amphenol filtered assemblies datasheet

www.amphenol.co.uk

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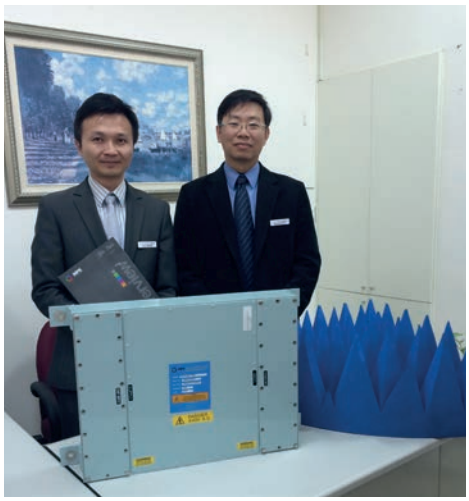

Pictured in the EMtrek sales office with a 63A MPE high-performance powerline filter for the telecommunications industry are, from left to right, Victor Lo – Sales Manager and Richard Liu – General Manager of EMtrek

Here against the backdrop of EMtrek's Headquarters are, from left to right, Richard Liu – General Manager and Victor Lo – Sales Manager of EMtrek

New distributor for Taiwan is catalyst for sales growth

MPE is pleased to announce the signing of an agreement with EMtrek Technologies Corporation of Dashi Town, Taoyuan County, for the distribution in Taiwan of all its filter and capacitor product ranges and customised solutions.

EMtrek have a team of 17 – including three experienced field sales engineers – and been designing and producing integrated EM test systems, from 200 MHz VHF communications frequency now up to 950 GHz, in Taiwan since 1993. They supply high-technology, complementary products, offering cutting-edge solutions from proven and established manufacturers to a well-established client base encompassing the defence, satellite communications, educational and industrial sectors.

In particular they dominate the market for antenna test systems, having built over 50 in Taiwan, and command a significant market share of over 80% in university-based, educational antenna test chambers.

Paul Currie, Sales and Marketing Director of MPE Ltd, spelled out: "Since we have worked previously with EMtrek on a number of Electromagnetic Pulse (EMP) projects, the appointment of the company as MPE's distributor for Taiwan is a natural progression. I have no doubt that this agreement will only further strengthen our relationship and be another catalyst for sales growth across the region."

Richard Liu, General Manager of EMtrek, commented: "Being a company closely linked with the EM community for over 20 years, EMtrek is a pioneering HEMP protection engineering provider and also a well-recognised RF parts and EM solutions company in Taiwan. The MPE product range is both a solution to meet Taiwan's HEMP protection engineering requirements and also a technology which is very complementary to our other product offerings. So we look forward very much to working with MPE in the coming years."

www.emtrek.com.tw

EMTREK

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Fréderic Morelli at his desk

The Euromip team at your service in France – from left to right, Florent Quiquandon, Karine Boulet, Fréderic Morelli, Guylain Boulay, Florence de la Marinière, François de Bernardy, Dolores Christiny

The French connection works well for MPE

Ever since its foundation in 1991, the French company Euromip has worked with MPE and has grown to be one of MPE's oldest and most active and effective distributors, consistently demonstrating a high level of technical understanding of RFI, EMI, EMP and TEMPEST solutions. The firm specialises in the supply of EMI protection, power and RFI protection components, with an extensive line card of high-quality, complementary, power, electromechanical and electronics products from major OEMs.

Owned by its President François de Bernardy, the company is based at Vélizy-Villacoublay, 14km south-west of the centre of Paris. From there a team led by EMC Product Manager Fréderic Morelli advise upon and typically distribute MPE's feedthrough capacitors, installation filters and military vehicle equipment filters, covering numerous market sectors for those products – avionics and aerospace 55%, military 15%, and industrial, medical and telecommunications 30%.

To enable penetration into key French accounts, Euromip maximises MPE's custom design and manufacturing capability – as well as supplying standard range products from the catalogue. Many MPE filter and capacitor solutions are customised to suit the end-user's design and application needs, and this is nowhere more so than in France.

Enjoying excellent technical and commercial relationships of long standing, Euromip services a host of well-established, blue-chip accounts such as Thales Air Defence, Thales Air Systems for military radar shelters, Cegelec, Daher and Ineo Défense for tactical shelters, and Panhard and Renault Trucks Défense for military vehicles.

www.euromip.com

EUROMIP

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Marshall Matrix military shelter with expandable sides

Mobile tactical shelters

Hospital shelters

Aerial view of field hospital

EMC, EMP & TEMPEST protection solutions for tactical shelters

Marshall Land Systems of Cambridge, UK, are leaders in programme and project management for defence, industrial and security solutions and major suppliers to the UK Ministry of Defence. Deployable CT scanners in service with three international armed forces including the UK led to Land Systems, part of the Marshall Aerospace and Defence Group, being awarded the Queen's Award for Enterprise 2013 in the Innovation category.

Over 20 years the installation-type filters – control, data, power and telephone line filters – that MPE has supplied to the company for EMC, EMP, HEMP and TEMPEST protection have been entirely for the company's mobile tactical shelter projects for Western defence forces.

Such programs have included contracts to supply ground control stations, forensic and hospital shelters and high-specification deployable machine shops.

Among the illustrations here, the Marshall Matrix shelter with expandable sides, capable of rapid deployment and transportation by road, rail, sea and air, meets all necessary international military specifications including UK DEF STAN, US MIL-STD and NATO 6516/SHCPE standards, and one of its key features is its high RFI and EMP attenuation performance attributable to MPE's filter products. Typical uses for this highly versatile unit range from a deployable HQ, tactical ground station or command post to a mobile workshop, field hospital or first-aid post.

www.marshall-ls.com

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The Multi-Temperature Refrigerated Container System

Suppressing electrical noise on refrigerated containers for the battlefield

The Finmeccanica company DRS Technologies, Inc, headquartered in Arlington, Virginia, is a leading supplier of integrated products, services and support to military forces, intelligence agencies and prime contractors worldwide. Focused on defence technology, the company develops, manufactures and supports a broad range of systems for mission-critical and military sustainment requirements, as well as homeland security. DRS has been recognised as one of the fastest growing defence technology companies in the world.

Now its facility at Florence, Kentucky – DRS Environmental Systems, Inc – has been manufacturing and supplying the Multi-Temperature Refrigerated Container System (MTRCS) to mission-critical theatres of operation for a number of years.

A suite of MPE feedthrough capacitors are utilised within each MTRCS solution and offer the highest levels of electrical noise suppression, whilst also meeting the challenging, limited footprint availability and the demands of the harshest working environments. The MPE products have been supplied in volume since 2011.

The Multi-Temperature Refrigerated Container System (MTRCS) is capable of safely storing and transporting temperature-sensitive cargo and perishable food items across the battlefield. An internal partition allows the interior to be divided into separate frozen and chilled compartments and is compatible with Heavy Expanded Mobility Tactical Truck (HEMTT) and Palletised Load System (PLS) vehicles.

www.drs.com/Products/PESG/MTRCS.aspx