



MPE
Quality, Reliability, Performance

Company Bulletin

for EMC, EMP, HEMP & TEMPEST Protection

Issue 20

MPE PEOPLE

MPE expands apprenticeship program

MPE's dedication to the advancement of young engineering talent is exemplified by its development programs for seven Production and Fabrication apprentices . . . [Read More >](#)



Spotlight on Paul Argent

Quality Assurance Engineer Paul Argent, a Six Sigma Green Belt, polices ISO9001, ISO14001, CE marking, and Health and Safety regulations on the shopfloor . . . [Read More >](#)



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3D printing of prototype components

A new MakerBot Replicator Plus 3D printing system allows MPE to print prototype components, to check their suitability for production and assembly processes . . . [Read More >](#)



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On the third day of the Conference, MPE Design Engineer John Lindsay presented a paper on "Refining HEMP Filter Design to Meet Changing PCI Requirements" . . . [Read More >](#)



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New era brings Euromip expansion

MPE's French distributor Euromip has moved to new premises at 16/18 Avenue Morane Saulnier, Vélizy, Paris with 50% larger office and warehouse facilities . . . [Read More >](#)



TOKIN EMC at anti-terror event

TOKIN EMC were the only exhibitor at SEECA 2019 in Tokyo displaying EMI, TEMPEST and EMP protection capabilities, including MPE's filtering solutions . . . [Read More >](#)



MPE APPLICATIONS

Cutting-edge command post solutions

Via its German distributor Electrade, MPE supplies EMC filters for Drehtainer's highly sophisticated, army command posts, containers and shelters . . . [Read More >](#)



MPE filters for anechoic chambers

MPE's EMC filters protect power and data cables coming into new twin EMC test chambers built by its distribution partner in China, Tech Crown of Xi'an city . . . [Read More >](#)



FAST FACTS ON MPE LTD

- Trading for over 90 years, MPE employs over 50 people.
- MPE has designed and manufactured in excess of 10,000,000 high performance protection filters and feedthrough capacitors across the last 30 years.

- Many products in continuous service for more than 25 years.
- MPE's portfolio spans over 20,000 custom designs.
- MPE is certified to the ISO 9001:2015 quality standard, and its products meet all applicable defence, safety and regulatory 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. Email sales@mpe.co.uk. Website www.mpe.co.uk

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Apprentices in the capacitor winding room at MPE: left to right: Gillam Prescott, Jacob Grosscurth, Jack Gorman, Bradley Reed, Liam Reed, Ben Meadley.



The new North West Training Council training facility adjacent to Bootle Docks in Liverpool

MPE expands apprenticeship program

After their initial year of production assignments and academic coursework reported in Company Bulletin Issue 13, MPE's first two apprentices Dylan Cassidy and Ben Meadley, who started with MPE in September 2016, have now completed their three-year Production apprenticeships. Accordingly they will be awarded their NVQ / BTEC Level 3 Extended Diploma in Electrical and Electronic Engineering in the coming weeks. The apprenticeship courses were conducted in conjunction with the North West Training Council (NWTTC).

Following on from this, in September 2019 Ben went on to commence two-year HNC level Electronic Engineering studies, which have been funded by MPE and will again be in collaboration with the NWTTC.

Similarly, Fabrication apprentice Liam Reed, who joined the MPE team in September 2017, has successfully completed his NVQ Level studies. Liam finished these at an accelerated pace, one year early. He is now going on to study for his HNC in General Engineering and NVQ in Mechanical Manufacturing Engineering. The academic modules of his studies will again be undertaken at the NWTTC.

MPE's other Production apprentices are Gillam Prescott, who also started with MPE in September 2017 and is now entering his third year of NVQ studies, and Jack Gorman, who joined MPE in September 2018 and has just completed his first-year NVQ studies.

MPE expanded its apprenticeship program even more in September 2019 with the recruitment of an additional Production apprentice and Fabrication apprentice. Bradley Reed and Jacob Grosscurth have joined MPE's apprenticeship scheme and will now complete their three-year NVQ studies. Bradley is studying again with the North West Training Council, whilst Jacob will be undertaking his studies at the Waterside Training College in St Helens.

This now sees MPE with a total of seven apprentices, representing some 13% of MPE's workforce. The company's commitment to a vigorous, continuing apprenticeship program was acknowledged by Make UK (formerly the EEF) in January 2019, when MPE was Britain's runner-up for the Developing Future Talent category at the National Manufacturing Awards in London.

More recently, The Manufacturer magazine has also recognised MPE's dedication to the advancement of young talent, with MPE being shortlisted as a Finalist within the People and Skills category of its Manufacturer MX Awards, in partnership with the Institution of Mechanical Engineers. The showpiece Final will be staged in the Liverpool Exhibition Centre at the Waterfront on November 14th.





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Paul Argent

Spotlight on Paul Argent

Reporting direct to Managing Director David Seabury, Quality Assurance Engineer Paul Argent polices the ISO9001:2015, ISO14001:2015 and CE marking standards at MPE and also has overall responsibility for the maintenance of Health and Safety regulations on the shopfloor. A holder of the Six Sigma Green Belt since 2003 and with wide experience and expertise gained from quality engineering roles across the north-west of England, Paul joined MPE in February 2019.

Focussing on the enhancement of product quality from the many manufacturing processes carried out at MPE, Paul Argent's principal role is in quality engineering from a physical, hands-on perspective, not only maintaining adherence to the documented quality standard ISO9001 but also improving performance where he identifies opportunities to do so.

Accordingly he has been proactive in streamlining production towards achieving the lean manufacturing goals set by the company. His dedicated programme of continuous improvement takes known issues, analyses them and makes the appropriate changes to optimise yields.

Over the past 40 years Paul's previous posts in quality engineering, supplier quality control and materials purchasing have included the Waters Corporation, MT Safeline, Flow Products, Glen Dimplex, Kohler Daryl, Honeywell and Huntleigh Kinetics. He attained an HNC (Higher National Certificate) in Production Engineering at Liverpool Polytechnic, HND (Higher National Diploma) in Computer-Aided Engineering at St Helens College, and a BSc in Psychology from the Open University.

Paul lives in the village of Roby, Merseyside. He has travelled extensively to a dozen countries in Europe and Asia with his job over the years, visiting mainland China on over 20 occasions, as well as vacationing many times in the USA and Canada. His hobbies and interests include playing in the Liverpool Ukulele Orchestra, holiday photography, walking to keep fit and longstanding support from childhood for Liverpool FC.





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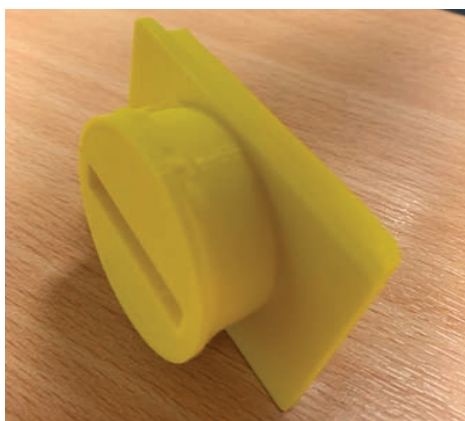
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The MakerBot Replicator Plus



Prototype end cap

3D printing of prototype components

In September 2019 MPE made a significant investment by implementing the MakerBot Replicator Plus 3D printing capability.

Whilst new material parts or custom products were previously electrically modelled and mechanically drawn by MPE to predict form, fit and function characteristics, these design functions could not always highlight all practical manufacturing realities and the complexity or simplicity of subsequent assembly work.

The new system allows MPE to print a wide range of newly designed material parts, checking how these components fit together, and confirming the complexity of any required assembly operations. This greatly assists MPE's design processes, enhancing design accuracy and efficiency whilst accelerating the introduction of new or customised products into manufacturing.

With a build volume of 29.5cm long x 19.5cm wide x 16.5cm high, the state-of-the-art MakerBot Replicator Plus combines outstanding performance with superior results and long-term reliability. The system prints high-quality concept models faster, easier and with a 25% bigger build volume than the previous Replicator model.

Accepting outputs directly from the AutoCAD Inventor 3D CAD software currently used in MPE's Design Department in Liverpool, this 3D printing facility is a fully integrated capability already used to realise new product designs.

The component image to the left depicts one such example, where a prototype "end cap" was produced using the MakerBot Replicator Plus.

This prototype was used to refine and finalise the sealing processes required, in order to meet the stipulated electrical and mechanical parameters and also to ensure that volume assembly was achievable. The finished end cap was incorporated into a customised MPE product supplied for an overseas defence application.



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The presentation by MPE Design Engineer John Lindsay at ASIAEM 2019



The Wyndham Grand Hotel in Xi'an – the Conference venue for ASIAEM 2019



西安交通大学
XI'AN JIAOTONG UNIVERSITY



MPE presents at ASIAEM 2019 in China

In September 2019 the Asian Electromagnetics Conference (ASIAEM) was held in the city of Xi'an, home of the Terracotta Army and beginning of the Silk Road in north-western China. One of China's most ancient cities, Xi'an, the capital of Shaanxi Province, has a larger population than Greater London.

Spanning five days from 15th to 20th September and chaired by Professor Yanzhao Xie of Xi'an's Jiaotong University, the Conference in China was the third biennial ASIAEM, following on from South Korea in 2015 and India in 2017. This year's event brought together the 25th High-Power Electromagnetics Conference (HPEM), the 18th Ultra-Wideband, Short-Pulse Electromagnetics Conference (UWB SP) and the 18th Unexploded Ordnance Detection and Range Remediation Conference (UXO).

Technical presentations were spread across four lecture rooms simultaneously and attended by more than 100 engineers and scientists from the global EMP community.

Given the company's unparalleled international reputation for research and development in the field of EMP protection filters, MPE was again asked to present a technical paper at the event. Accordingly, during the third day, MPE Design Engineer John Lindsay presented a detailed paper on "Refining HEMP Filter Design to Meet Changing PCI Requirements".

In his address John described the evolution of MPE's HEMP filter modelling capability and the practical testing conducted by independent test houses to correlate and prove that capability. John also provided an insight into the practical differences between laboratory acceptance testing of HEMP filters and the verification testing carried out within real-world installations.

With John Lindsay being the only presenter from the UK, his talk was particularly well received. Moreover an encouraging number of informed questions were posed by members of the audience, both at the time and during subsequent conversations.

The ASIAEM Conference is part of the AMEREM / EUROEM / ASIAEM Conference series, a unique forum for the international EMP community since the first meeting organised by Dr Carl Baum in Albuquerque, New Mexico, back in 1978. In rotation the next Conference will be EUROEM, to be staged at Hamburg, Germany, in August 2020.

For your interest and information, the hyperlink to the abstract of the paper which John Lindsay delivered at ASIAEM is to be found [here](#).



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New era brings Euromip expansion

Since the acquisition made by Jean-Philippe Louis on 11th May 2018, Euromip, MPE's Silver distribution partner in France, has enjoyed a period of sustained growth. As a result and in line with its defined strategy, Euromip has recently expanded its team and moved to a much larger, purpose-built facility.

Having represented MPE within France for over 15 years, Euromip's promotion of MPE's wide portfolio of filter products has always been based on an excellent technical capability and support of its customer base. Further strengthening this technical capability, in November 2018 Euromip expanded its team with the appointment of Yann Baillergeau as Technical Manager. Having previously been technical manager at Sunon, Yann has vast experience of high-technology product supply to a wide variety of applications.



This appointment was swiftly followed by the expansion of Euromip's sales, administration and logistics functions, with Axelle Biteau joining in April 2019 as a Sales Administration Assistant, Andreas Rudel coming on board as Sales Director in May 2019, and Patrick Mendes joining in August 2019. These appointments add great strength to the Euromip team and afford customers even greater pre- and post-sales support going forward.



The appointments made represent an important addition of skills and experience to the Euromip team and, led by its President, Jean-Philippe Louis, are a clear demonstration of Euromip's commitment to its company strategy and support of MPE's market-leading product designs within France.

Following a period of detailed planning, on 13th September Euromip moved to a new facility at 16/18 Avenue Morane Saulnier, Vélizy, Paris. This new facility includes expanded office and warehouse facilities as pictured here, as well as offering excellent transport links in to and out of Paris. The expanded space is 50% larger than Euromip's previous facility and has also been designed to accommodate and support Euromip's future growth plans.

In recent months Euromip and MPE have worked closely to design, manufacture and supply a number of new bespoke designs for a military communications shelter application and, with several new designs also in the pipeline, sales within France look set to increase further during 2020.

Silver Partner

EUROMIP
Delivering expertise



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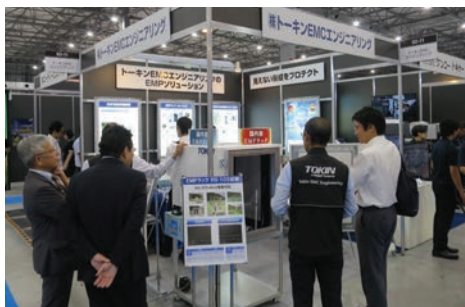
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The Tokyo International Exhibition Centre – Tokyo Big Sight



The TOKIN EMC stand displaying MPE filtering solutions at SEECAT 2019

TOKIN EMC at anti-terror event

For the second year running, MPE's distribution partner for Japan, TOKIN EMC Engineering Co Ltd (TOKIN EMC), took a stand at the annual event SEECAT (Special Equipment Exhibition and Conference for Anti-Terrorism). This was held in the West Hall of Tokyo Big Sight, Japan's largest convention and exhibition centre at over 95,000 m², and was once more co-located with the annual RISCAN (Risk Control) Security and Safety trade expo.

TOKIN EMC were again the only exhibitor displaying EMI, TEMPEST and EMP protection capabilities, which included a range of MPE's filtering solutions. Founded in November 1983, TOKIN EMC are part of the TOKIN Corporation. MPE's portfolio complements TOKIN EMC's existing products, which range from individual absorbers and antennas through to complete shielded room solutions.

Headquartered in Kawasaki, TOKIN EMC also have facilities in Osaka and Tsukuba, with their locations in all three cities boasting impressive, 10-metre anechoic test chamber facilities. TOKIN EMC benefit too from an existing and longstanding trading relationship with Eretec Inc, MPE's Bronze Partner for the Republic of South Korea.

Visitor numbers to TOKIN EMC's stand at SEECAT were excellent across all three days of the exhibition, 2nd to 4th October, with a high level of interest specifically in the Mil-Std-188-125 compliant HEMP rack on display, again fitted with MPE's world-leading HEMP filters.

Mr Susumu Matsuoka, Director of TOKIN EMC, commented: "Given the success we had exhibiting for the first time at the SEECAT event in 2018, expectations for this year's event were high. The activity and interest generated at the Show certainly lived up to our calculations, and now there are many interesting business opportunities to progress."

"Whilst the EMP market in Japan is still in its infancy, there is a definite, growing requirement for MPE's protection solutions and, having conducted a number of activities with our customers as well as end-user authorities over the last year, we are excited that TOKIN EMC are at the forefront of establishing this new market in our country."

When they signed their distribution agreement in April 2018, both TOKIN EMC and MPE viewed the creation of the market in Japan as a long-term project. However, less than 18 months into the distribution arrangement with MPE, TOKIN EMC have already realised filter sales considerably in advance of the original plan.

For EMC and EMP product enquiries in the Japanese market, email matsuokas@tee.tokin.jp, visit the TOKIN EMC web pages www.tee.tokin.jp/eng or call TOKIN EMC at their headquarters in Kawasaki City +81 (0)44 751 2316.

SEECAT
Special Equipment Exhibition & Conference for Anti-Terrorism

TOKIN



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Manufacture of army command posts at Drehtainer



Container testbed at Drehtainer



A Drehtainer watchtower cabin



MPE power line filters of different amperages

Cutting-edge command post solutions

Via Electrade GmbH, its Bronze distribution partner for Germany, MPE has supplied a range of EMC filters to Drehtainer GmbH for integration into its portfolio of highly sophisticated command posts, containers and shelters. Founded in Hamburg in 1974, Drehtainer is a privately-owned, medium-sized enterprise located between the states of Schleswig-Holstein and Mecklenburg-Western Pomerania and boasting a 12,000 m² production area with a crane lifting capacity up to 100t.

Concentrating its efforts on the development and manufacture of special containers and vehicles for defence, nuclear technology and industrial applications, Drehtainer has since 2005 delivered some 2,500 protected, modular, camp containers to support the operations of the German, Australian, Canadian and Dutch armed forces as well as the Swiss Army. The unique modular system design of protected Drehtainer solutions allows the containers to be docked to each other to create small to very large buildings.

Working closely with Electrade, John Parsons and John Jephcott of MPE conducted visits to Drehtainer's facility to make a thorough assessment of requirements. Following this, the filter selection and development phases were also completed at MPE, prior to providing a number of high-performance filter variants to Drehtainer for installation and test. These filters included three-phase and neutral AC models covering 16A through to 100A power requirements, along with various multi-line control and telephone filters.

To date, MPE has supplied eleven different filter models, in numerous batches, for integration into Drehtainer's command post and electronic warfare (EW) container solutions.

The selection of MPE filters for these shelter applications is further testament to the breadth of quality product offering at MPE and Electrade's commitment to outstanding customer service. Electrade and MPE now look forward to continuing their working relationship with the highly motivated and experienced team at Drehtainer.

DREHTAINER 
Protection makes the difference.

Bronze Partner

ELECTRADE
ELEKTRONIK-VERTRIEB
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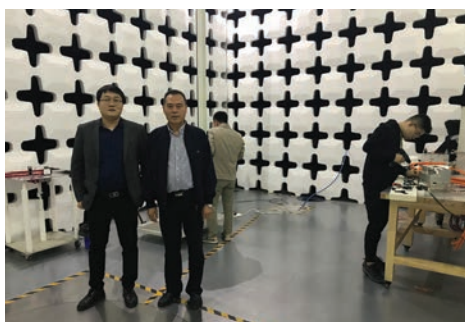
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The Design Department at Tech Crown at work on new EMC test chamber



New EMC test chamber takes shape at Tech Crown in the city of Xi'an



Paul Currie, Director of MPE Ltd (left) busy planning ahead at Tech Crown with their executives

MPE filters for anechoic chambers

In Issue 14 of the Company Bulletin we reported on the appointment in October 2017 of new distributor Xi'an Tech Crown Electromagnetic Compatibility Engineering Technology Co Ltd (Tech Crown). Since then, Tech Crown, as MPE's bronze distribution partner for China, has experienced a period of solid growth across that vast country, despite fierce competition from indigenous filter manufacturers.

In a further major advance, January 2019 saw Tech Crown complete the construction of a new EMC testing and office facility at its headquarters in Xi'an city.

Given the great demand for EMC testing in Xi'an and the surrounding Shaanxi and adjacent provinces, twin three-metre EMC test chambers were constructed, allowing for two test programs to be conducted simultaneously. The facility includes a wide range of antennae and associated test equipment, with the capability to test equipment across an impressively broad frequency spectrum from 20Hz through to 40GHz.

Integral to these test chambers, all incoming power and data cables are routed via a suite of high-performance MPE EMC filters, ensuring the electrical integrity of the installation. This suite of EMC filters include both AC and DC models in a variety of current ratings up to 100A.

With one of the chambers boasting a two-metre wide entrance door, equipment such as communications racks, data servers and motor drives can all be accommodated for testing. Since completion these twin chambers have already been used to fulfil EMC test programs for 20 customers in the commercial marketplace.

The popularity of this new testing capability has warranted the expansion of the Tech Crown team to some ten people, six of whom are dedicated EMC test engineers. Tech Crown at Xi'an is a subsidiary of the well-established Xi'an Henderson Optoelectronics Technology Co Ltd, which was founded in 2010 and now numbers 70 staff, 50 of whom are directly involved in research and production.

MPE and Tech Crown are currently working side-by-side on a number of new test chamber projects due for installation during 2020, along with the development of custom filters for a state-of-the-art, next-generation Chinese military vehicle platform.

For information on Xi'an Tech Crown, visit the company's website www.kg-e3.com or, for product enquiries in the Chinese market, email Vice General Manager Ocean Lee oceanlee@kg-e3.com or call his office hotline +86 (0)29 8102 9196.

