



Company Bulletin

for EMC, EMP, HEMP & TEMPEST Protection

Issue 21

MPE PEOPLE

MPE rounds off decade of major growth

Now exporting to 28 territories, MPE's global reach has continued to grow, enabling MPE to round off 2019 with its largest forward order book for 25 years . . . [Read More >](#)



Spotlight on Gary Masson

Mechanical Design Engineer Gary Masson joined MPE in September 2019 and is working on an update of MIL-STD-188-125 filters and an original feedthrough varistor design [Read More >](#)



MPE ACTIVITY & TECHNOLOGY

Winner of the International Trade Award for 2019

MPE Ltd won the International Trade Award for the whole of the UK at the Manufacturer MX Gala Dinner and Awards ceremony held at Liverpool Exhibition Centre [Read More >](#)



Going green across the company

Focused on the environmental impact of its operations, MPE has been working continuously to reduce waste in every aspect of its operations and its entire facility [Read More >](#)



MPE DISTRIBUTORS

MPE & Electrade exhibit jointly at EMV 2020

At EMV 2020 in Cologne, MPE and its German distributor Electrade are exhibiting jointly on stand 710, showcasing MPE's market-leading EMC and EMP filter solutions [Read More >](#)



MPE expands European distribution eastwards

MPE has appointed SACA Europe as its distribution partner for Bulgaria, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Romania, Slovakia and Slovenia [Read More >](#)



MPE APPLICATIONS

Custom feedthroughs for French Army

Custom feedthroughs, critical components on Sherpa Light 4x4 tactical vehicles, are being manufactured by MPE and supplied via Gold distribution partner Euromip [Read More >](#)



MPE supplies largest test chamber in Korea

MPE powerline filters have been incorporated into its Gold distribution partner Eretec's anechoic chamber for automotive NVH testing at Governmental test house JIAT [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
If you have a friend or colleague who you think might find the MPE Company Bulletin informative, then why not forward it to them?



David Seabury – Managing Director, MPE Ltd



Underlining the company's commitment to a vigorous, continuing apprenticeship program, here you see six apprentices in the capacitor winding room at MPE. Left to right: Gillam Prescott, Jacob Grosscurth, Jack Gorman, Bradley Reed, Liam Reed, Ben Meadley



MPE proudly receiving the top UK Award for International Trade at The Manufacturer MX Awards held at the Liverpool Exhibition Centre in November 2019. From the left, Henry Anson – Managing Director of Hennik Research, publishers of The Manufacturer magazine; Terry Scuoler – Chairman of the Institute of Export & International Trade; Dame Jessica Ennis-Hill, DBE – guest speaker; Tracy Lowe – Procurement Manager of MPE Ltd; David Seabury – Managing Director of MPE Ltd; Alistair McGowan – guest speaker

MPE rounds off decade of major growth

In last year's review I commented that 2018 was going to be a hard act to follow but follow it successfully we did . . . and then some!

MPE entered the year with a solid order book and this, coupled with retirements and increasing levels of orders from around the world, saw specialist recruitments to strengthen MPE's team. Starting in February, Paul Argent joined Quality Assurance, and the process continued throughout the year with Gary Masson coming into Engineering, Jake Bauress and Antony Murray into Production, Emma Clare into Procurement and culminating with Angela Murphy into our Accounts team at the end of the year. Looking ahead, with recruitment in Production currently under way, the team is again set to grow in 2020.

The first half of 2019 witnessed new orders for substantial UK projects including custom solutions for installation at RAF Lakenheath, RAF Lossiemouth and RAF Skelton. These were swiftly followed by project orders including air bases in Germany and Government buildings in The Netherlands and South Korea. In the second half of the year, as the culmination of several years of design and testing work, MPE secured a very significant communications project in the USA, with first units being shipped in December.

During July, as a result of an innovative research programme initiated in 2015, MPE was granted two families of patents in the UK and Europe. The first family relates to MPE's latest feedthrough varistor system, which has a thermally activated override. The second family of patents relates to a varistor system that can be integrated into many types of power cord or plug. MPE expects to follow this in the next 12 months with the granting of the same patents in the USA.

In September MPE further expanded its apprentice scheme. Now in its fourth year, we saw Jacob Grosscurth and Bradley Reed join our program, swelling the team of apprentices to almost 13% of MPE's total employees. Ben Meadley also progressed onto his HNC studies, and he was a worthy winner in the North West Training Council apprentice awards.

Following the various accolades that MPE received during 2018, I was delighted when, in November, MPE was named winner of the UK's International Trade award at the Manufacturer MX Awards in Liverpool. This annual awards programme for manufacturers is the most respected in the UK, with expert judging being conducted over an intensive four-month period, so that to receive this particular national award really was the icing on the cake for our company.

Also in November, MPE's network of European distributors was expanded once more with the appointment of SACA Europe BV. The geographical coverage that they provide is facilitating the wider distribution of MPE products to Bulgaria, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Romania, Slovakia and Slovenia and means that MPE now has specialist authorised distributors for 26 different territories.



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MPE Design Engineer John Lindsay presenting a detailed paper on "Refining HEMP Filter Design to Meet Changing PCI Requirements" at ASIAEM 2019 in Xi'an, China

During 2018 MPE had adopted 100% recyclable and biodegradable non-toxic materials to package many of its products. Building further on our "Going Green" initiative aiming to minimise our environmental impact, towards the end of the year it was great to see MPE eliminate all single-use plastics from every area of its facility, continuing our commitment to reduce waste.

Other activities over the 12 months included MPE's participation at EMV in Stuttgart, Germany and IDEF in Istanbul, Turkey, and our Design Engineer John Lindsay's presentation of an original research paper at the ASIAEM conference held in Xi'an, China.

Support for many high-profile applications such as the Queen Elizabeth aircraft carrier platform continued, but perhaps most notable were the HEMP solutions which MPE supplied to the Thule Air Force Base in Greenland. This is the northernmost base of the US Air Force, located some 1,207km (750m) north of the Arctic Circle and 1,524km (947m) from the North Pole.



MPE has provided 66 high-performance EMC power line installation filters of ten different designs for applications on the new HMS Queen Elizabeth aircraft carrier

So, with MPE exporting to 28 different territories in 2019 and with MPE's filters now installed within the Arctic Circle, MPE's global reach has continued to grow significantly. This unparalleled coverage worldwide enabled MPE to round off 2019 with its largest forward order book for 25 years and, given the prospect of such healthy manufacturing volumes, the start of the new decade is set to be even better than the last.



MPE has supplied a suite of Mil-Std-188-125 HEMP filters for the Ballistic Missile Early Warning System at Thule Air Base on the north-west coast of Greenland, the northernmost base of the US Air Force



Headquartered at Helmond, Netherlands, SACA Europe BV is MPE's newly appointed distribution partner for the Balkan and Eastern European territories



Gary Masson

Spotlight on Gary Masson

Gary Masson, Mechanical Design Engineer, joined the MPE Design team in early September 2019. Reporting to Paul Currie, Director and co-owner of the company, Gary is currently working on an update of MIL-STD-188-125 filters, as well as an original feedthrough varistor design based upon the two families of UK and European patents granted to MPE during 2019.

As discussed in MPE Company Bulletin Issue 17, the first family of patents relate to how this novel varistor system incorporates a thermally activated override. The new product not only dramatically increases switch-on speed by reducing circuit inductance, but also provides a safe and complete disconnection of the system from the circuit in the event of the varistor degrading.

The second family of patents relate to a varistor system that can be integrated into many types of power cord or plug. It enables retrofit or additional EMP protection to be added to virtually any device simply by changing the power plug or cord to that device.

Ever since its implementation, Gary Masson has been using MPE's new MakerBot Replicator Plus 3D printer to produce the concept models that he needs from the AutoCAD Inventor 3D CAD package to aid and support MPE's manufacturing and assembly processes downstream.

Alongside day-to-day 3D CAD activities required for new solution designs and orders, Gary's wealth of mechanical design experience is already being utilised to further improve MPE's existing solutions. Going forward, the aim is to draw on this experience, allowing alternative or new materials, mechanical components and processes to be explored, in order to enhance MPE's efficiency in building their high-performance, high-specification filters on a repeat basis.

As a Mechanical Design Engineer or Senior Technical Support Engineer with a wide spectrum of experience across six varied engineering companies, Gary is proud of numerous design achievements over his 35-year career.

He assisted in the design of the Heat Energy Resource Unit (HERU) that converts kitchen waste into synthesis gas (syngas) for generating heat and hot water for the home. He was in the small team which designed the first drive-through island ATM for the NCR Corporation. He designed a mixed gas regulator for soft drinks dispense for BOC Gases, as well as a bacteria-free Stuart brand hotplate for Cole-Parmer.

A resident of Sandbach, Cheshire, Gary is married to a hospital consultant, and they have two adult daughters. He gained his BSc in Mechanical Engineering at Dundee University, 1980-84.

Having previously been a player of the Cheshire Hornets Basketball Club in the highly competitive Manchester Area Basketball League, Gary has been Club Chairman for the past ten years. He is also a Grade 3 basketball referee across Greater Manchester. In addition Gary shares his wife's passion for cycling. Last August he joined her and two other family members in raising over £2000 for a prostate cancer charity by completing the 100-mile Ride London challenge around London and the Surrey hills.



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MPE proudly receives the Award for International Trade at The Manufacturer MX Awards 2019. From the left, Henry Anson – Managing Director of Hennik Research, publishers of The Manufacturer magazine; Terry Scuoler – Chairman of the Institute of Export & International Trade; Dame Jessica Ennis-Hill, DBE; Tracy Lowe – Procurement Manager of MPE Ltd; David Seabury – Managing Director of MPE Ltd; Alistair McGowan.

Winner of the International Trade Award for 2019

MPE won the International Trade Award for the whole of the UK at The Manufacturer MX (TMMX) Gala Dinner and Awards ceremony held at Liverpool Exhibition Centre on November 14th.

The winners were announced at this annual celebration of the best of British manufacturing attended by more than 700 industry leaders. Guest speakers were the former Olympic, World and European heptathlon and World indoor pentathlon champion Dame Jessica Ennis-Hill, DBE, and the BAFTA-winning BBC impressionist, comedian and writer Alistair McGowan.

This, the largest and most-respected annual Awards programme in the UK manufacturing calendar, is delivered by The Manufacturer magazine in partnership with the Institution of Mechanical Engineers (IMEchE), London SW1.

The Awards were the culmination of a rigorous, four-month schedule of visits by judges who travelled thousands of miles across the UK to benchmark companies' performances.

Judges included previous Manufacturer MX Awards winners, Fellows of the IMechE, representatives from each of the High Value Manufacturing Catapult (HVMC) centres and leading academics, not to mention industry experts from companies such as Airbus, Capgemini UK, Dassault Systèmes, Jaguar Land Rover, Leyland Trucks, RS Components and Santander.

Dick Elsy, CBE, Chief Executive of the High Value Manufacturing Catapult, stated: "As the go-to place for advanced manufacturing in the UK, we are proud to be a judging partner for the TMMX Awards. Awards like these recognise the innovation of manufacturers of all sizes and celebrate the boost that innovation brings to our economy."

Dr Jen Baxter, Head of Engineering at the Institution of Mechanical Engineers, commented: "The winners of these Awards demonstrate the depth and vitality that we have in our manufacturing sector. The contribution that we continue to see from engineers working in manufacturing shows how creative this industry really is. I congratulate all the winners and hope to see more from them in the future."





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100% recyclable, bio-degradable, non-toxic packaging



MPE is committed to the removal of single-use plastics



The Knowsley Active Fit Scheme is providing ongoing health benefits for MPE employees

Going green across the company

Focused on the environmental impact of its operations, MPE has worked continuously over the last five years to reduce waste in every aspect of its operations and across its entire facility.

MPE has always been committed to reducing its environmental impact, eliminating the use of all materials classed as “hazardous” over ten years ago, becoming “lead-free” more than five years ago, and first publishing its environmental policy back in July 2013. Nevertheless, in more recent times MPE has devoted even greater resource to improving its green credentials.

MPE now operates a continuous improvement philosophy across every area of its business. That is not just limited to shopfloor practices and processes related to product deliveries, but also spans all possible elimination and correct disposal of waste as well as employee activities and health.

MPE derives its energy requirements from sustainable resources wherever possible and, whilst environmental impact assessments are not conducted separately for major projects, this is always a consideration. As an example, MPE recently upgraded its laboratory facility and, as part of this, installed the most energy-efficient lighting and heating options available.

Back in 2015 MPE introduced the segregation of recyclable waste, such as cardboard and paper across its office, engineering, manufacturing and despatch environments, with standard operating procedures for the disposal of waste enacted and broadcast.

Also in 2015, at an employee level, working with the local Chamber-of-Commerce for the Knowsley area, MPE undertook a study of its employees’ commuting patterns. In a study published in the British Medical Journal, researchers had found that cycling to work was linked to the most significant health benefits, including a 45% lower risk of developing cancer and a 46% lower risk of heart disease compared to non-active commuters.

Subsequently a “cycle-to-work” scheme was promoted within MPE, with employees contributing most to the study being recognised with individual awards.

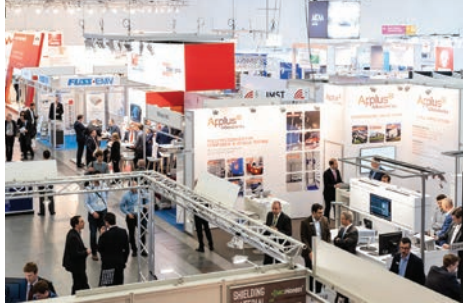
In 2017, following a period of assessment and research, MPE brought in 100% recyclable and bio-degradable non-toxic materials for packaging products and migrated much of its packaging to these materials. The company now estimates that 80% of its product shipments utilise these 100% recyclable materials.

More recently, in November 2019, MPE eliminated single-use plastics from every area of its facility. All employees have been provided with reusable drinking bottles, removing from circulation the disposable plastic cups previously used. At the same time, all meeting areas have been equipped with refillable water bottles, eliminating single-use plastic water bottles.

The above activities are in line with MPE’s current published environmental policy and are further evidence of MPE’s commitment to reducing waste and recognising its environmental impact. MPE remains committed to preventing pollution, minimising any negative effects and maximising the positive effects created by its operations.

You are invited to download the official statement of MPE’s environmental policy from [here](#).





MPE & Electrade exhibit jointly at EMV 2020

The EMV (Elektromagnetische Verträglichkeit) exhibition and conference has become one of the most important annual events in Europe's electronics and electromagnetics calendar. Founded in 1988 and organised by the Messe Frankfurt Group, the show has continuously expanded and now boasts more than 120 exhibitors spread over 4200m².

Previous editions of this trade fair have been held in Düsseldorf and Stuttgart, but in 2020 it will take place for the first time at the Kölnmesse, Cologne, from 17th to 19th March.



At EMV 2020 MPE and its Silver distribution partner for Germany, Electrade GmbH, are exhibiting jointly on stand 710. The 12m² corner site will provide ample space to showcase a range of MPE's innovative and market-leading EMC and EMP filter solutions, alongside complementary EMC products from Electrade's cutting-edge electronics component ranges, whilst also providing good facilities for client meetings.

Building upon the solid growth that MPE and Electrade have experienced across the German marketplace, the EMV event provides an ideal opportunity to meet with both existing and new clients from the territory. Numerous repeat customers have been developed within Germany, whilst new custom products are now being designed into and supplied for a number of state-of-the-art defence platforms, as recently featured in MPE Company Bulletin Issues 18 and 20.



Dieter Mühlberger – Managing Director of Electrade GmbH

With over 20% of visitors coming from other countries, EMV is considered to be a truly international forum, and MPE expects to welcome interested parties from around the globe to the stand. MPE's Bronze distributor for Japan, Tokin EMC, and its Gold distribution partner for South Korea, Eretec Inc, are already set to attend, among key international meetings being finalised.

Dieter Mühlberger of Electrade, along with Paul Currie and John Jephcott of MPE, will be on their joint stand 710 and available to answer your questions throughout the exhibition. But, in advance of EMV 2020, you can get in touch by email with Electrade via dieter.muehlberger@electrade.com and MPE via sales@mpe.co.uk.

Silver Partner

ELECTRADE
ELEKTRONIK-VERTRIEB
 UND CONSULTING

emv

Following EMV, MPE's busy international exhibition and conference programme for 2020 will see participation at:

- Eurosatory, at Paris Nord Villepinte exhibition centre, France, June 8th to 12th.
- EuroEM, the European Electromagnetics Conference, at Helmut Schmidt University, Hamburg, Germany, August 24th to 28th.
- EMC Europe, at Engineering Faculty of Sapienza University, Rome, Italy, September 7th to 11th.
- Electronica at Messe München, Munich, Germany, November 10th to 13th.

So please ensure that you put these dates into your diary now!



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The technical sales team at SACA Europe



SACA Europe BV headquarters at Helmond



Cemal Alpay – Managing Director of SACA Europe BV

MPE expands European distribution eastwards

Following increasing requests from, and business conducted with, Balkan and Eastern European territories, MPE has appointed an authorised distributor to cover these regions.

Accordingly MPE is pleased to announce the appointment of SACA Europe BV as its distribution partner for Bulgaria, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Romania, Slovakia and Slovenia, further augmenting its established global distribution base.

Whilst MPE's EMC and EMP filter and capacitor products have been providing solutions for years in all of these countries, the company has not previously been able to devote specific resource to targeting and growing business within each region. The appointment of SACA Europe will allow such territory development in each individual country, with the clear objective of sustained sales growth.

SACA Europe was incorporated in The Netherlands in November 2018. The founders have more than 30 years' experience in the electronic components distribution market and already have a well-established and highly successful distribution relationship with MPE, also owning IMCA Elektronik, MPE's Gold level distribution partner for Turkey.

Alongside MPE's extensive product portfolio, SACA Europe also offers a wide spectrum of products from European and US manufacturers for defence, space and aerospace, transportation, telecommunications and industrial applications.

Following the appointment of SACA Europe in November 2019, Director of MPE Paul Currie commented on the appointment: "IMCA are consistently one of MPE's top-performing territory distributors, with a very professional approach and an in-depth technical understanding of our products and applications. Now working with SACA Europe, I am confident that this same professional approach and level of technical excellence will be replicated, providing the best opportunity for solid growth within these new territories."

Cemal Alpay, Managing Director and owner of SACA Europe, commented "Having worked very successfully with Paul and the MPE team since 2013 to create many repeat customers and solid growth in Turkey, I am excited to now have the opportunity of expanding this close working relationship to other territories. I feel certain that together we can make this another highly successful venture."

To contact SACA Europe BV at Steenovenweg 5, NL-5708 HN Helmond, The Netherlands, email info@sacaeurope.com or call +31 492 472 510. For detailed information on product lines, visit the company website www.sacaeurope.com.

SACA



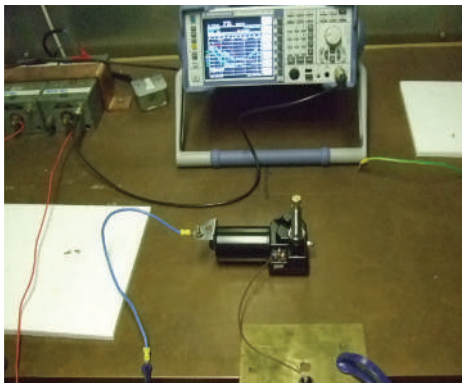
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The Renault Sherpa Light tactical vehicle for all-terrain mobility



Pre-compliance testing at MPE in Liverpool



Typical examples of MPE feedthrough capacitors

Custom feedthroughs for French Army

Through Euromip, its Gold-Certified territory partner for France, MPE has been supplying EMC filters to Arquus, formerly Renault Trucks Défense, since 2010. Arquus has a worldwide presence, having partnerships with multinational groups such as MBDA, Nexter and Thales and boasting five production sites and 1500 employees in France. The Arquus range includes light, medium and heavy, wheeled military vehicles for combat, tactical and logistics operations.

The French Army are major users, with 90% of their wheeled vehicles being supplied by Arquus. The Sherpa Light range is one such example.

The Sherpa Light family of 4x4 tactical and light armoured vehicles have been designed to meet the needs of light forces (infantry, paratroopers, marines and internal security) in respect of all-terrain mobility, payload and protection. The Sherpa Light benefits from a huge payload (up to 4.5 tonnes), a ground clearance of 0.6 metres and a high-torque 215 BHP engine. The Sherpa family includes six variants from 7.9 to 10.9 tonnes, with the capability to transport between five and ten soldiers.

During the design phase of the Sherpa Light platform, MPE was consulted to ensure that both EMC compliance and operational EMC performance requirements were fully met. Following initial consultation, MPE conducted pre-compliance testing in order to diagnose specific areas of issue and design the most effective filtering solutions. A particular focus was on the limits defined in the French GAM-EG 13A1 specification, ensuring that equipment systems such as wiper motors operated well within them.

Subsequently MPE produced and supplied a range of custom feedthrough products to Arquus for installation on its Sherpa Light vehicles prior to full approval testing.

Each MPE feedthrough capacitor was optimised for a particular application within a specific area of the vehicle. The MPE feedthroughs represent critical components within the Sherpa Light vehicles, and to date almost 1,000 of these custom MPE products have been manufactured and supplied via Euromip (www.euromip.com) to Arquus.

Looking ahead, MPE's strong supply relationship with Arquus is set to continue for many years, since, in addition to its current use with the French Army, the Sherpa Light has also now been successfully promoted to, and ordered by, other NATO member forces.

For more details of MPE's high-performance feedthroughs, go to: www.mpe.co.uk/category/feedthroughs

Gold Partner

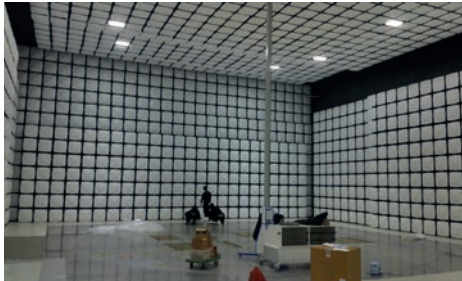




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The new test chamber in the course of construction at JIAT



MPE filters during their installation by Eretec at JIAT



The MPE filters in situ at JIAT



Bird's eye view of the new test chamber



Truck under test

MPE supplies largest test chamber in Korea

Specialist local distributor Eretec is championing MPE's interests in the Republic of South Korea, one of the top three sales territories for MPE last year, and is making great strides in its business.

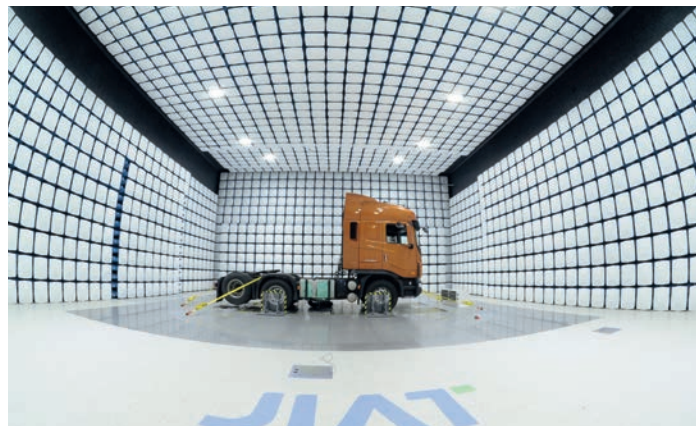
Accordingly the company has completed a large anechoic test chamber installation for automotive NVH (Noise, Vibration, Harshness) testing, performance testing and hardware-in-the-loop (HIL) simulation. The location is the Jeonbuk Institute of Automotive Technology (JIAT) in the city of Gunsan, North Jeolla province, in the south-west of the country.

Established in 2003, JIAT is a Governmental test organisation for vehicles and vehicle systems and components which assists research and development by small and medium-sized enterprises (SMEs) who do not have a test facility of their own. The Institute also provides consulting, research and training services in a large facility of over 33,000m². It is the biggest test house in Korea, except for those operated exclusively by automotive manufacturers such as the Hyundai Motor Co.

So Eretec provided an entire, new, screened room test chamber. The turnkey solution supplied and installed by Eretec included EMC shielding, EMC doors, EMC filters, and all internal equipment systems including absorbers, turntable and dynamometer.

Working under the supervision of Eretec, five installation engineers were contracted by Eretec specifically for the seven months' duration of the project. 12 MPE powerline filters were specified and installed comprising five different models from MPE's catalogue range, rated at 16A, 32A, 63A and 100A.

www.eretec.com



Truck under test

Gold Partner

