

### MPE PEOPLE

#### MPE breaks records in Award-winning year

With MPE's turnover having grown by more than 10% last year and over 40% within the last two years, MPE is in a most healthy position as the company heads into 2022 . . . . [Read More >](#)



#### Marcus Wright appointed Manufacturing Director

The graduation of Manufacturing Manager Marcus Wright from a seven-month leadership development programme has culminated in his promotion to Manufacturing Director . . . . [Read More >](#)



### MPE ACTIVITY & TECHNOLOGY

#### MPE Manufacturing moves up to another level

After a major review MPE has implemented a lean manufacturing strategy to increase production in order to accommodate £10 million worth of annual sales around the world . . . . [Read More >](#)



#### MPE wins two of the major awards in UK manufacturing

MPE won two regional awards at the Make UK Manufacturing Awards – the Business Growth and Strategy Award and SME-of-the-Year Award . . . . [Read More >](#)



### MPE DISTRIBUTORS

#### Annual awards acclaim top performing distributors

MPE's network of distribution partners remains in great health, with SACA UK rapidly achieving Gold Partner standing and IMCA maintaining their Gold status in Turkey . . . . [Read More >](#)



#### MPE makes international visits at last!

After MPE had visited distributors IMCA in Turkey and Euromip in France, in early December 2021 Paul Currie flew out to the USA, MPE's largest export sales territory . . . . [Read More >](#)



### MPE APPLICATIONS

#### Custom installation kits serve integrators well

With comprehensive 3D CAD and metal fabrication facilities in-house, MPE supplies installation kits to assist integrators and installers of high-current power line filters . . . . [Read More >](#)



#### Equipping Royal Malaysian Air Force Hawks

MPE provides ceramic feedthrough filters to the Royal Malaysian Air Force for their fleets of BAE Systems Hawk 208 combat aircraft and Hawk 108 trainers based at Labuan . . . . [Read More >](#)



### FAST FACTS ON MPE LTD

- Trading for over 95 years, MPE employs more than 60 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's is certified to the ISO 9001:2015 quality standard, and its products meet all applicable defence, safety and regulatory standards.



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David Seabury – Managing Director, MPE Ltd



Part of a large HEMP filter order being loaded for shipment in July 2021



The Hunt Class minesweeper HMS Hurworth on patrol duties in the English Channel



Royal Navy Vanguard Class submarine

## MPE breaks records in Award-winning year

Following 2020 when MPE's total annual sales increased by over 30%, MPE had planned for a period of consolidation during 2021. However, the year defied all of our expectations.

Entering the year with significant project orders for production and with global supply chain issues starting to affect manufacturers the world over, MPE understood that the business would be very busy during Quarter 1 and heading into Quarter 2. What perhaps wasn't anticipated is that new project orders would continue to increase throughout the year, and MPE would need to rapidly accelerate the growth and investment plans it had set for future years.

Most notably, demand for MPE's high-current HEMP filters has risen by 210% across the previous three years. It was MPE's ability to expand in the area within a very short timeframe, coupled with our longstanding and trusted supply chain relationships, which allowed this growth to be accommodated. Significant forecast orders from Scandinavia, the UK and the USA were realised, along with a resurgence of sales from the Republic of South Korea, with three major project orders secured from that country. In July 2021 MPE shipped one of the largest high-current filter orders it has ever manufactured, including 4800A HEMP filters for installation in a power facility.

Alongside these project orders, our expanded distribution network also blossomed. SACA UK, newly appointed in late 2020, recorded high volumes of sales much earlier than predicted and achieved Gold Partner status for 2022. Most notably, SACA UK supplied custom MPE TEMPEST power line filters for installation on the Royal Navy's Hunt Class mine countermeasure vessels (MCMVs). Despite the challenges that these further levels of growth and global supply chain issues placed on Manufacturing, MPE's on-time delivery in full has been maintained at an average of 95% throughout 2021.

In September the media spotlight shone on our Naval applications in the BBC TV drama Vigil, a six-part murder mystery serial centred on the control room of a Vanguard Class submarine protected by MPE's ultra-low-leakage TEMPEST power line filters. MPE has a long history of supplying high-performance custom filters for applications in the Royal Navy's submarine fleet, including Vanguard and Astute Class vessels. In fact we are currently finalising filter protection solutions for the Royal Navy's next generation, Dreadnought Class nuclear submarines now under construction and due to enter service in the 2030's.

As for all companies, the continuing worldwide Covid pandemic has again presented issues for MPE. However, I am happy to report that staff absences were few. Our dedicated workforce remained fit and well as a whole, and the strict protection measures implemented by MPE meant that positive cases were isolated and did not come about from our working environment. Encouragingly, following some relaxation of travel restrictions, MPE's international travel resumed in October 2021, with MPE undertaking visits to distributors, customers and prospects in Eastern Europe, France, Turkey and the United States before the year end.





## Company Bulletin

for EMC, EMP, HEMP & TEMPEST Protection

### Issue 27



From the new, low-leakage MPE TEMPEST power line filter range



Apprentices receiving tuition on a coil winding machine at MPE



Marcus Wright joins the MPE Board as Manufacturing Director



The proud company owners celebrating their Make UK Awards wins

Within Engineering, a new low-leakage TEMPEST filter range was introduced, MPE expanded its standard HEMP filter range to include filters up to 4800A, and activity with Underwriters' Laboratories in the USA was resumed. However, perhaps most exciting was the huge progress made on a revolutionary new technological advance which I cannot yet detail. What I can say is that this is something not yet seen anywhere in the EMC filter market.

As in previous years, I was again delighted to see the continued development and progression of MPE's team members. In September MPE was able to continue its established Apprentice Programme, again recruiting new Apprentices and progressing existing ones to higher studies or full employment within our business. Staff numbers were also boosted, primarily within Manufacturing, where existing teams were strengthened.

As MPE approached the end of the year, following his completion of a four-year personal development program, it was great to see Marcus Wright promoted to Manufacturing Director and join the MPE Board. On a recognition and reward front, within the year MPE was also able to implement a significant pay increase for all staff, and team members also received two separate bonus awards during 2021.

Closing the year, MPE were immensely proud to be named by Business Insider magazine as one of the Top 10 Growth Businesses in the North-West region of England. This followed MPE's triumph in winning Make UK's Business Growth & Strategy Award and SME-of-the-Year Award for the North-West. Whilst such accolades do not have a direct impact on the business, it is always fantastic to receive such recognition from esteemed independent organisations.

So, with MPE's overall turnover having grown by more than 10% last year and over 40% within the last two years, MPE is in a most healthy position as the company heads into 2022. With the project orders that MPE expects to secure during the first half of 2022, coupled with MPE's open order book currently being at a record high, I am confident that MPE can exceed all previous years' performances and make 2022 yet another significant, record-breaking year."



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Marcus Wright

#### Marcus Wright appointed Manufacturing Director

Marcus Wright has been the Manufacturing Manager of MPE Ltd since joining the company in January 2018. Over that time Marcus has developed and led the implementation of a dynamic strategy which has encompassed a host of plant and process improvements across the different areas of Manufacturing.

These improvements have brought in further manufacturing efficiencies and considerably increased production capacity. In total they have enabled MPE to produce far greater volumes, in order to meet the significantly higher demands currently being placed on the business for EMC, EMP, HEMP and TEMPEST protection solutions for projects running in the UK and around the world.

Throughout his four years with MPE, Marcus Wright has completed several personal development programmes, the latest of which saw him graduate from a Growth Catalyst leadership development programme on 25th November 2021.

The Growth Catalyst is a seven-month leadership development programme hosted by the University of Liverpool Management School. The programme is designed to help businesses of up to 250 employees in the Liverpool City region to raise their performance by improving the personal development of business owners and senior level managers.

The Growth Catalyst began in May 2021 and involved Marcus attending a number of workshops ranging from two-day leadership residential, business coaching and masterclass talks, through to online skills workshops and business exchange visits. Marcus is now planning to utilise the new skills and techniques he has acquired so as to assist MPE's further growth and development strategies and also build new and lasting relationships with other expanding businesses.

His graduation from this leadership programme completed Marcus's four-year personal development timetable and has now culminated in his promotion in February 2022 to the position of Manufacturing Director.

In joining the MPE Board, alongside his role leading Manufacturing Marcus is also able to contribute to all other parts of the MPE business and be fully involved in any decision-making processes related to those other business areas.

Following Marcus's appointment as Manufacturing Director, the Managing Director of MPE, David Seabury, commented: "I am thrilled to have Marcus join the MPE Board. His appointment as Director is a direct result of his hard work and dedication throughout his time at MPE."

"The results Marcus has achieved speak for themselves, and I am excited to have Marcus now share the experience and knowledge he has acquired, to contribute to our strategy of continuous improvement in all areas of our business through the 2020's and beyond."



A view of the Manufacturing shopfloor



Within the capacitor winding facility at MPE



An operator can access a component from the drawer of the automated carousel a few seconds after entering the required part number via the keypad on the left



Two operators kitting component parts for orders ahead of assembly

## MPE Manufacturing moves up to another level

Over the last five years MPE has witnessed a significant and continuous growth in demand worldwide for its products. This increased demand has placed greater pressure upon MPE's Manufacturing teams and accordingly, following a thorough review, MPE has implemented an updated strategy to gear up production to accommodate £10 million worth of annual sales.

### A new reporting structure

A new reporting structure has been introduced in Manufacturing, with fresh roles created and the Manufacturing team expanded. As well as active recruitment, this has resulted in a number of internal promotions and personnel progression. The new structure delegates more responsibility and accountability to both supervisors and operators.

### Continuous improvements to workflow

Alongside an increased headcount of skilled operatives, numerous improvements have been made to equipment, facilities and processes. Within the last 12-month period, lean manufacturing techniques have been rolled out within MPE's internal business units supplying fabricated boxes, inductors, capacitors and machined parts for assembly processes downstream.

These techniques include single piece flow rather than batch manufacturing. That method presents the required components much earlier for the kitting operation, enabling the kitting of parts up to five weeks in advance of the sales order due date, so as to achieve on-time deliveries.

### Capacitor winding facilities

MPE's capacitor winding room has been reconfigured into two lean cells which are mirror images of each other. This enables a single operator to manage all of the machines within a cell at the same time if required and eliminates non-value-added activities.

### High-current filter manufacture

Manufacture of MPE's high-current filter ranges, 800A and above, has grown by over 100% in the past three years. In response to the surge in orders, many from overseas, a new, dedicated assembly area has been created for these large filters, which are often produced in large volumes for major projects. This, along with the implementation of lean manufacturing techniques, has increased capacity in that area by 300%.

All of the above has contributed to MPE's achievement of 96% on-time delivery in full across 2021, despite the acknowledged pressures which the Covid pandemic has placed upon material sourcing and international shipping.

### Looking forward to a bright future

In 2022 MPE will implement a long-term plan to restructure its Manufacturing facility in order to maximise process efficiencies and boost throughput. The plan includes dedicated product-type assembly cells with their own test capability, additional investment in paint facilities to increase painting capacity by up to 200%, and the further streamlining of packing processes and systems.





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## MPE wins two of the major awards in UK manufacturing

Continuing its remarkable record of achieving industry recognition, MPE Ltd has won two prestigious regional awards at the Make UK Manufacturing Awards 2021. At Make UK's annual gala dinner held in Preston, Lancashire, on Thursday 4th November, MPE was the proud recipient of both the Business Growth and Strategy Award and the SME-of-the-Year Award, as well as being the only company this year to be the top performer in more than one category.

Selected from thousands of manufacturing companies of all sizes in the North-West of England, the Awards are organised by the national manufacturers' organisation Make UK and sponsored by the Top 100 law firm Bevan Brittan LLP.

The Award for Business Growth and Strategy honours the organisation with the most dynamic business growth based upon an actively managed and consistently delivered growth strategy. The SME-of-the-Year Award recognises businesses of less than 250 employees who have blazed a trail within the manufacturing sector, led by example and developed progressive best practice for others in the industry to follow.

Competing against strong competition from all across the North-West region, MPE was delighted to end the evening winning both of the Awards for which it had been shortlisted.

June Smith, Regional Director at Make UK for the North of England, commented: "These Awards are a testament to the dynamic companies and individuals working within engineering and manufacturing. The sector remains at the heart of creating wealth in the North-West and, as we rebuild our economy, there will be a bright future for companies and individuals that make the most of their talent."

Paul Currie, Director of MPE Ltd, remarked: "I was extremely proud to see MPE again recognised by such an esteemed organisation as Make UK. To receive one Award from Make UK as our national manufacturers' organisation would have been fantastic, but to secure two Awards on the same night in the face of such strong competition was unbelievable. Such success is only made possible by the hard work and commitment of everyone within the MPE business."



Marcus Wright, now MPE's Manufacturing Director, is presented with the Business Growth and Strategy Award for 2021 by June Smith, Regional Director – North at Make UK



John Hickey, Mechanical Engineering Design Manager, receives the SME-of-the-Year Award on behalf of MPE from June Smith



Team MPE celebrate their success at Make UK's annual gala dinner, proudly displaying their two Manufacturing Awards certificates: from left to right, David Seabury, John Jephcott, Paul Currie, Marcus Wright and John Hickey





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#### Annual awards acclaim top performing distributors



Following the expansion of its distributor network during 2020, in December 2021 MPE again conducted its annual review of territory distributor performance.

Now in its sixth successful year, MPE's Partner Program is firmly established as a yardstick for measuring distributor performance against set criteria. The Program provides a clear view of the expectations MPE has of its Partners and, in return, the significant benefits and support forthcoming from Partner status. The MPE Partner Program is a tiered structure with four distinct levels – Bronze, Silver, Gold and Platinum. The scheme sets achievable individual goals for each Partner, whilst allowing MPE to apply a uniform approach to the assessment of new and existing Partners across all territories.

As throughout 2020, the ongoing Covid pandemic made liaison with, and effectively the management of, MPE's family of Partners again challenging during 2021. Methods of remote communication such as MS Teams, Skype and Zoom videoconferencing remained the norm during the first half of 2021.

However, the relaxation of some travel restrictions during the second half of the year allowed the opportunity for physical visits to be completed. MPE immediately seized this opportunity, with visits carried out to its Distribution Partners for Eastern Europe, France, Turkey and the USA.

As reported in earlier Issues of MPE's Company Bulletin, from the start of the Covid-19 pandemic MPE's family of Distribution Partners has remained fully operational. Via a combination of remote working, office working and in some cases isolated teams, MPE's authorised distributors have continued to ensure that world-class MPE filter and capacitor products are available in all the territories which they represent.

An outstanding story of success during 2021 has been the rapid growth and progression of MPE's UK Distribution Partner SACA UK. With SACA UK being appointed only in late 2020, by the end of 2021 they have progressed to a Gold level Partner status with MPE.

Despite very challenging trading conditions throughout territories the world over, alongside SACA UK, IMCA, MPE's Distribution Partner for Turkey, have retained their Gold level Partner status and, with overall sales via territory Distribution Partners having again increased during 2021, MPE's distribution network remains in great health.

The parameters for measuring company performance are based not purely on the yardstick of physical orders, but more broadly on proactive sales and marketing activities, linked in with the dynamic development of new customers and as yet untapped market sectors, showing future promise of progression to the next Tier of the Partner Program.

Each Partner honoured in the annual Awards is able to display the Awards plaque at their company headquarters. The proud recipients are prominent too on the Distribution Partner pages of the MPE website [www.mpe.co.uk/distributors](http://www.mpe.co.uk/distributors)

Gold Partner



Gold Partner

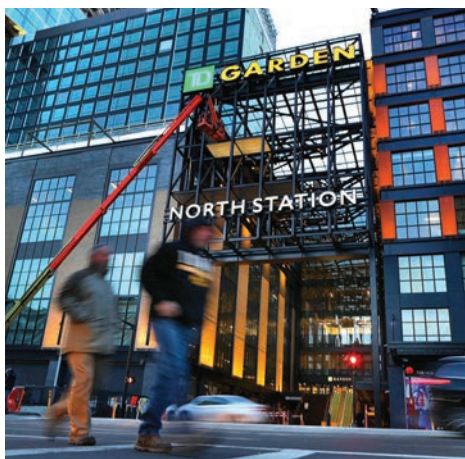




The Directors of MPE visit their distributor partners SACA Europe and IMCA in Ankara, Turkey (left to right, David Seabury and Cemal Alpay, Paul Currie and Ahmet Arpaözü)



With facemasks worn as required, French territory distributor Euromip welcomes MPE at Vélizy (left to right, Jean-Philippe Louis – President, Euromip, Yann Baillergeau – Technical Manager, Euromip, John Jephcott – Key Account Manager, MPE, Andreas Rudel – Sales Director, Euromip)



At the major transportation hub of Amtrak's Boston North train station in Massachusetts

## MPE makes international visits at last!

Following the relaxation of some travel restrictions amid the present Covid pandemic, during late 2021 MPE seized the opportunity to complete a number of overseas visits to its territory distribution partners. MPE had conducted its last physical meetings with clients and distributors abroad back in January and early February 2020, over 18 months before.

Whilst regular contact had been well maintained over this lengthy interval by remote communications such as videoconferencing and messaging, the significant personal elements of face-to-face meetings and hands-on participation had certainly been missed. Accordingly, following the relaxation of travel restrictions in September 2021, MPE acted quickly to make overseas travel arrangements.

The first travel undertaken was to Ankara in Turkey in October 2021. On this visit David Seabury, Managing Director of MPE Ltd, and Paul Currie, Sales and Marketing Director, fulfilled meetings with the company's Gold level distribution partner for Turkey – IMCA, and also its recently appointed distribution partner for Eastern Europe – SACA Europe. Partner review meetings, product training and customer meetings were held across four days.

Following this, during the final week of November 2021, John Jephcott, MPE Key Account Manager, and Paul Currie met with Euromip, MPE's distribution partner for France, at their headquarters and greatly expanded warehouse facility in Avenue Morane Saulnier, Vélizy, 13km south-west of the centre of Paris.

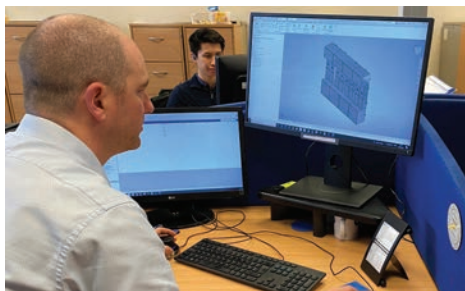
In accordance with the Covid restrictions still in place, MPE carried out product training and a number of client visits in addition to a detailed partner review meeting. The timing of the business trip was critical. It proved even more important just two weeks later when France reimposed severe travel restrictions, which again rendered international visits impossible.

Hot on the heels of travel to France, during the first week of December 2021 Paul Currie flew out to the United States. With the USA being MPE's largest export sales territory, and with several significant projects either being bid for or now being installed, MPE felt that it was vital to go to North America at the earliest opportunity.

During that tour, international travel regulations and local rules were unfortunately tightened up, so that the week-long itinerary had to be amended. Accordingly many meetings had again to be held via videoconferencing and the visit had to be curtailed.

The present events which overshadow and interrupt overseas tours to distributors, customers and prospects demonstrate the volatility and uncertainty still inherent in international business travel. Nevertheless, despite this, MPE remains fully committed to the support of its overseas territory partners and will continue to travel where possible, in line with all applicable Covid regulations.





3D mechanical design at MPE using an Autodesk Inventor solid modeller



Punch press operation at MPE on the high-performance LVD Strippit



Folding of metal filter enclosure



Installed MPE HEMP filters with custom fabricated mountings

### Custom installation kits serve integrators well

As reported in the opening article of this Company Bulletin, demand for MPE's high-current filters has risen by some 210% over the past three years. Whilst applications range from 800A through to 4800A and include both three-phase and three-phase and neutral configurations, mechanically the filter elements used follow standard and well-established designs. Nevertheless, connection and termination requirements regularly present mechanical challenges unique to each project that MPE undertakes.

Given the many and varied site constraints existing in EMC and HEMP applications, common practice is for filter suppliers to provide only the filter elements themselves, leaving the integrator to handle all of the connection and termination requirements. In direct contrast to this, MPE offers a full system solution to clients, including all connecting plates, gaskets and termination enclosures in a single installation kit. This service significantly reduces risk and simplifies what can be very complex installations, so as to greatly ease the burden on installers and integrators.

Details of standard high-current filter installation kits can be found in MPE's HEMP power line filter catalogue. Whilst each kit comprises a range of components for maximum flexibility, each kit is procured against a single part code, to make the ordering process that much simpler.

However, with most installations having requirements specific to their site only, MPE also regularly designs and supplies custom installation kits for its clients. With both a 3D CAD design department and a comprehensive metal fabrication facility in-house at MPE, such designs can in most cases be realised within a few days.

Last year MPE delivered a wide variety of these custom installation kits to applications across Europe, the Far East and the USA. Mechanical customisations included not only changes to physical dimensions, but also custom aperture positions, custom gland plate sizes and custom mountings – not to mention mechanical strengthening to provide security and confidence in operating conditions susceptible to particular shock and vibration.

These engineering designs are produced by MPE's expert design team using their Autocad Inventor 3D package and are provided for scrutiny and sign-off by the client ahead of any order. The custom kits are subsequently manufactured entirely in-house within MPE's fabrication facility.

As part of the company strategy of continuous improvement and its dedicated support of the integration process, MPE is currently completing numerous custom installation kit designs and has lodged further custom designs with clients for sign-off ahead of manufacture during the first half of 2022. These custom solutions for the benefit of installers and integrators serve to underline MPE's position as the world's number one provider of high-current EMC and HEMP filters.

Information on MPE's standard high-current HEMP installation kits is included in this brochure for you to download:

<https://www.mpe.co.uk/wp-content/uploads/2021/03/HEMP-Power-Line-Filters-Issue-14.pdf>



Royal Malaysian Air Force (RMAF) Hawks, a Hawk 108 training aircraft flying above a Hawk 208 combat aircraft



The badge of the Royal Malaysian Air Force, which in Malay is Tentera Udara DiRaja Malaysia (TUDM). Its motto Sentiasa di Angkasa Raya means "Always in the Sky".



A miniature ceramic feedthrough filter used on the RMAF application

## Equipping Royal Malaysian Air Force Hawks

MPE ceramic filter products have been incorporated in BAE Systems Hawk aircraft platforms for over 20 years, ensuring the electromagnetic compatibility, one with another, of disparate electrical and electronics avionics systems operating on board, such as instrumentation, navigation, communications and weapons systems. First flown back in 1974, the Hawk is primarily utilised as a training aircraft, although it is also currently deployed by several air forces around the world in front-line active roles.

One such user is the Royal Malaysian Air Force (RMAF), which maintains a complement of 18 Hawk aircraft based at RMAF Labuan in Sabah state, East Malaysia. They comprise four Hawk 108 training aircraft and 14 Hawk 208 combat aircraft.

The Hawk 108 is a two-seat advanced weapons trainer export version for the Royal Malaysian Air Force with additional avionics, optional FLIR infrared, a redesigned wing and features such as BAE Systems' Sky Guardian radar warning receiver (RWR) and wingtip launch rails. Ordered in 1990, these aircraft were delivered from 1994 to 1995. The Hawk 208 is a single-seat, lightweight multi-role combat aircraft export version for the Royal Malaysian Air Force. It has been used in air defence, airspace denial, anti-shipping, interdiction, close air support and ground attack roles.

As widely reported, the Royal Malaysian Air Force recently scrambled an unspecified number of its Hawk 208 aircraft to confront a squadron of 16 People's Liberation Army Air Force (PLAAF) aircraft over the South China Sea. Taking place on 31st May 2021, the encounter played out within the Kota Kinabalu flight information region (FIR). Having been first detected by the air defence centre in Sarawak, the aircraft were flying in an "in-trail" tactical formation when they abruptly changed direction towards Malaysia and the Hawk aircraft were scrambled to intercept.

MPE's range of miniature ceramic feedthrough filters are suitable for the filtering of power lines and control lines and are also used within other airframes, such as the Eurofighter Typhoon. The circuit configuration of the filters provides optimum performance and an exceptional level of impedance. With many 100,000s of filters supplied for service across the past 30 years, these products from MPE are highly trusted for a host of mission-critical applications in defence and aerospace.

As confirmed by the Malaysian Minister of Defence Hishammuddin Hussein on November 25th 2021, the Malaysian government has now begun evaluating proposals to replace the country's ageing fleet of Hawk Mk108/208 light attack and lead-in trainer aircraft. This future programme is looking to purchase 36 airframes in two phases. 18 are to be procured initially, with the remainder being acquired from 2025 onwards.

In the intervening period MPE continues to support the current fleet of Hawk aircraft in Malaysia with further supplies of EMC filter products in 2022 for retrofit and spares. For more information on MPE's range of high-reliability ceramic filter products, please check out [www.mpe.co.uk/products/ceramic-msks/](http://www.mpe.co.uk/products/ceramic-msks/)